



# JOURNAL

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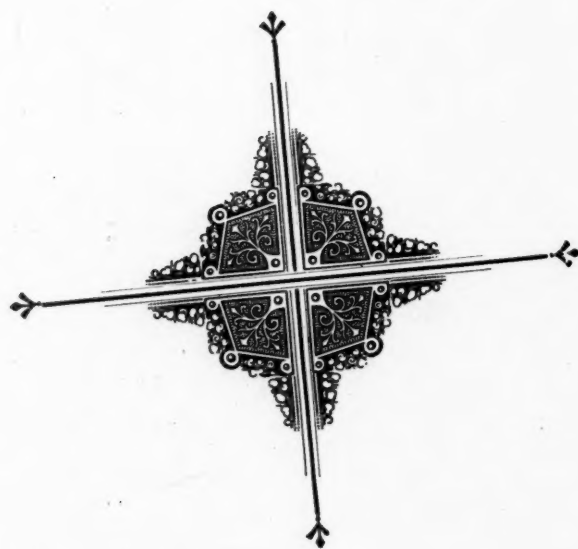
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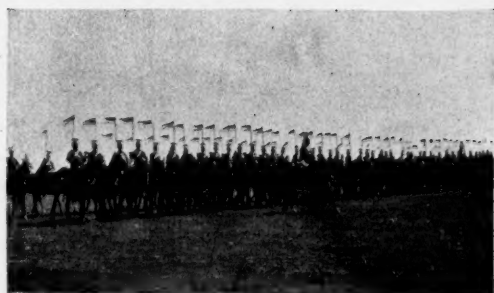
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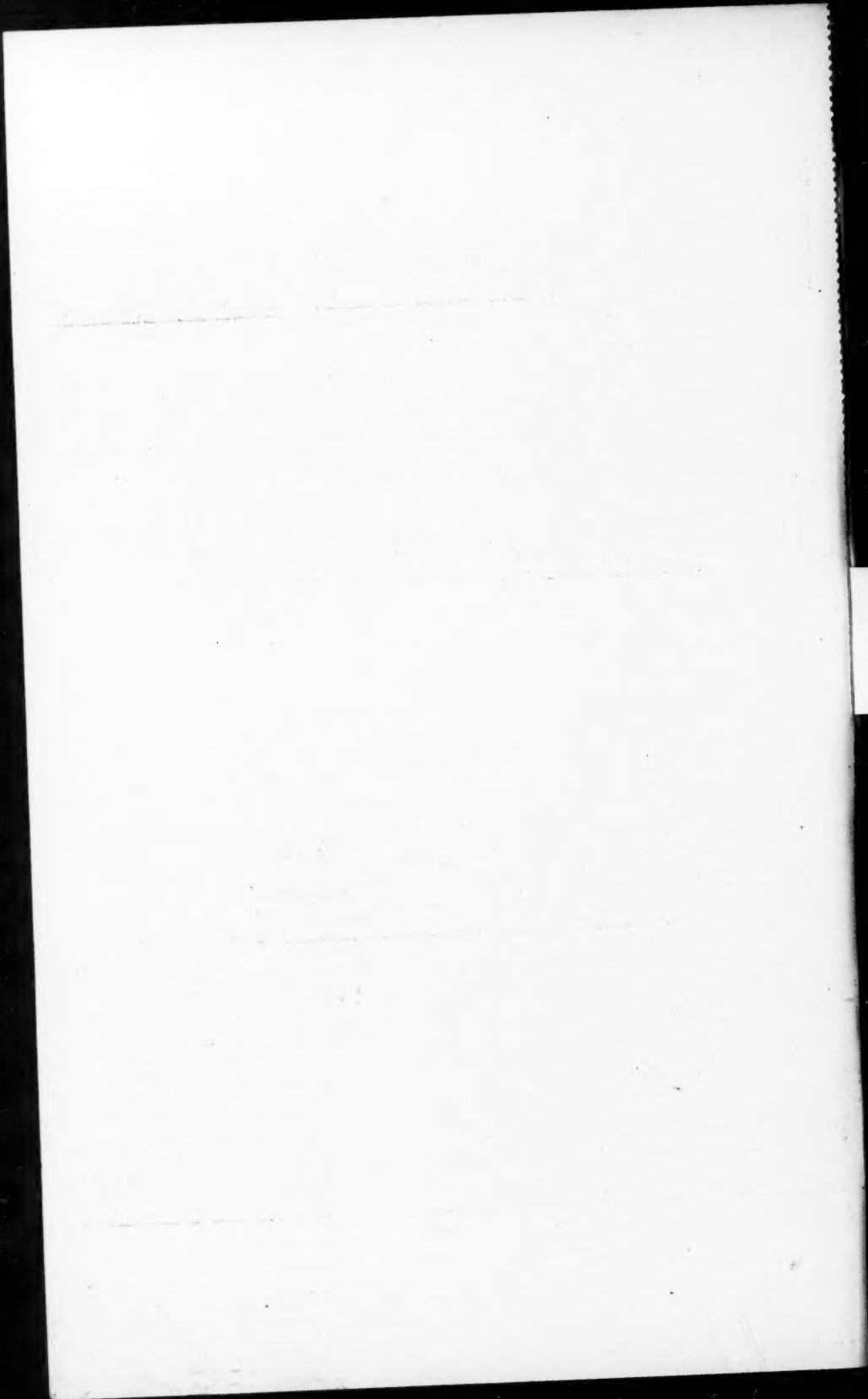


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SNAP SHOTS AT THE MANŒUVRES.



**The Lecture on "The Training of a Battalion of Infantry," by Lieut.-Colonel R. L. A. Pennington, Commanding 2nd Battalion Northumberland Fusiliers, announced for Wednesday, June 7th, is postponed. The date, when fixed, will be announced in the public press.**





# THE JOURNAL

OF THE

## ROYAL UNITED SERVICE INSTITUTION.

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VOL. XLIII.

MAY, 1899.

No. 255.

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*[Authors alone are responsible for the contents of their respective Papers.]*

### THE AUTUMN MANŒUVRES OF 1898.

*By Major J. W. H. MARSHALL-WEST, 4th Batt. Prince Albert's  
(Somersetshire Light Infantry).*

Thursday, February 23rd, 1899.

Major-General J. B. STERLING in the Chair.

#### I.—INTRODUCTORY.

BEFORE speaking on the interesting matter in hand, I crave permission to address a few remarks of a personal nature. First, then, I would express my very real regret that it should be your lot this afternoon to listen to words of mine, instead of my being able to sit amongst you and listen to some one more competent to deal with so important a subject. I cannot help thinking of one in particular from whom we should all have learned much, but who, alas, is prevented by a great sorrow from being with us to-day. His influence is, none the less, very strongly upon many of us, and if I, happily, am able to put before you certain matters worthy of anxious and serious thought, it is his influence which has taught me to think. You have my sympathy; I ask you, therefore, to grant me yours, and also your indulgence. Many difficulties crossed my mind when first the subject was suggested to me, but the distance of time, I think, made me bold. For since I rashly consented to read this paper I have known but little peace of mind. Ever before me in the rushing interval of time, and in a very busy life, have I seen the Spectre of this Manœuvre Paper drawing closer and closer. I never fully realised, however, my own hardihood until I met one day a member of the Council of this Institution, to whom I spoke on the subject. As my courage had not then entirely evaporated, my reference thereto was fairly light and airy. But his reply crushed me:—"Yes, we were talking of you in the matter, but I said that I knew you would not be fool enough to do it." I left him as quickly as I could, consistent with politeness, fully realising the aptness of the trite saying regarding a certain section of blundering humanity who thoughtlessly rush in where even a body of celestial beings fear to tread.

Some of you may have come to-day in the expectation of hearing a scathing criticism of last year's manœuvres. To such my paper will be a severe disappointment. According to my experience, there was much to praise, but little to blame. Even if I considered myself a competent critic—which I do not—I am of opinion that it would be more patriotic to gloss over trivial mistakes, easily remedied in the light of experience gained, rather than to call exaggerated attention to them with the idea, perhaps, of impressing the world in general with a sense of one's own importance and one's own omniscience. Much of the cheap criticism which I have since read in a certain section of the Press is, according to my own observation, sheer nonsense and unprofessional twaddle. I made it my business to see all that I could, and I had a free hand. I met and conversed with all sorts and conditions of men, from the highest to the lowest. I endeavoured to get at the real feeling of the rank and file whenever occasion offered itself. I interviewed civilian members of the supply and transport sections in the dead of night, when broken down by the wayside on account of overloading and under-horsing; and this I can honestly say, that in my judgment every officer and soldier in Her Majesty's Forces, and often under most trying circumstances, endeavoured to the best of his ability to do his duty, and generally succeeded, whilst the civilian element attached had also the best intentions as a rule, but unfortunately, owing to want of proper organisation, too often did not know how to carry them out.

The foregoing remarks were penned before the appearance of the Official Report—penned, moreover, to excuse my own poor attempts to piece together the story of the manœuvres. Just at that time some of the papers were clamouring for such Report, but time continued to run on without its appearance. Of course there must be all sorts of failures and shortcomings to be concealed, said the wise ones. Therefore I worked away at papers, and returns, and figures, until I was weary of the sight of them. And suddenly I found myself confronted towards the end of last month with the delightfully clear and outspoken, as well as comprehensive, Report of the Commander-in-Chief, the director of the manœuvres. Naturally I found my own efforts often wide of the mark. Two and two with me had sometimes made five, sometimes three, and haply on occasions exactly four. I quickly realised, therefore, that my own laboured efforts might just as well be committed to a capacious and hospitable waste-paper basket. I also realised that having undertaken to talk to you this afternoon, unless I chose to give you a *résumé* of the Official Report, I must more than ever rely on my personal observations. But to understand properly the manœuvres, I advise those who have not already done so, to study carefully the Official Report thereon. My particular task was to record the daily doings of the Northern or "Red" Army under the command of H.R.H. the Duke of Connaught. Therefore, for the time, I was a partisan. Everything to me was *couleur de rose*, or if you prefer it, *couleur de rouge*. Everything "Blue" was bitterly hostile, bent only on the capture of our beloved capital. Day by day I saw the "enemy" at a greater or less distance; but so far did my

prejudice extend, that I preferred not even to know the task set for their commander. In this way was I better able to judge of the difficulties of our own.

## II.—PRELIMINARY ARRANGEMENTS.

It will be remembered that under date of 6th August, 1897, there appeared some four-and-a-half modest pages of new legislation, bearing the full title of "60 & 61 Vict., chapter 43, An Act to facilitate Military Manœuvres." As I shall have more to say about the Act itself presently, I would only here call attention to the clearly expressed purpose of such Act, viz., "*to facilitate Military Manœuvres.*"

Under Sec. 4, then, of this Act, by an Order in Council, dated 19th May, 1898, the Military Manœuvres Commission was appointed, and duly held its first meeting on 7th June of last year. The Act was to come into force on the 15th August, and there was much hard work to be got through by the Commission in the interval. That the work was got through reflects the greatest credit on that body, but it is only fair to the local civil authorities to add that their liberal appreciation of the spirit of the Act—and not its mere letter—materially contributed to its successful working. As regards the military preparations, the Commander-in-Chief, in his Report, directs special attention to the consequences of such a late date being fixed for the application of the Act, notably in the matter of hiring land for camping purposes. He suggests that "in future at least two months should be allowed for preliminary work."

The initial difficulty must have been with us whence to get the number of men decided upon, how to house them, how to feed and water them, and how to move their various requirements. As regards the former difficulty, the United Kingdom was called upon to furnish troops throughout its length and breadth. The Militia also was afforded the opportunity of showing its worth—or otherwise. The Army Ordnance Corps faced the matter of "Equipment" with apparent confidence and certainly with success. To the Royal Engineers fell one exceptionally great difficulty, that of water supply. This was, however, as was indeed all their work, most admirably provided for and carried through under the circumstances, and it is gratifying to find that the Official Report recognises fully the good work done. Early in April last a systematic reconnaissance of possible camping grounds had been made by officers then studying at the Staff College, which, whilst affording excellent practice and instruction to the officers concerned, enabled the authorities to fix upon certain definite *regions*. The water difficulty was quickly found to be the governing condition, and the reality of the operations was continually hampered by this consideration. How this difficulty may be overcome in the future remains to be determined, and is worthy of earnest discussion. That hard-working and efficient branch, the Army Service Corps, had neither the *personnel* nor the *matériel* with which to carry out their particular duties, and so the bold experiment of relying mainly on civilian contractors was accordingly and perforce decided upon. Of all the many

valuable lessons to be gained from the manœuvres of 1898, surely this, from a national point of view, is the most important. Again our military chief has summed up the matter in a few pithy words. Under the head of "Transport" he writes:—"An increase to the number of men in these cadres" (Army Service Corps) "is, in my opinion, imperative." Again, under the head of "Supply," after giving the credit due to the Corps for the admirable manner in which their duties had been performed, under exceptionally difficult circumstances, he concludes:—"Without any doubt their peace establishment is very far below its legitimate requirements. I am strongly of opinion that a considerable increase, while still fulfilling the condition of economical use in peace, is absolutely essential to efficient expansion for war." Fortunately these weighty words have now been laid before Parliament by command of Her Majesty, and I have preferred to quote them here rather than inflict on you what I had already written in the same strain myself prior to seeing them. It is devoutly to be hoped that our legislators will see the falseness and criminality of any cheese-paring economy in this all-important matter.

### III.—NATURE OF MANŒUVRE COUNTRY.

The area selected for the larger operations presents many features of interest, and lends itself to tactical combinations to a degree not often met with in this country. From the point of view, therefore, of home defence, pure and simple, it may not be the best possible training ground for our troops, although as regards practice in Continental campaigning nothing better could be wished for. The difficulty of command and supervision in our ordinary close or intersected country is well known to the thoughtful few, and it would be excellent practice for our troops to manœuvre in large bodies in such country from time to time. The training may otherwise prove misleading. To us, spectators, however, such ground as that about Salisbury Plain is, generally speaking, ideal. The bare rolling chalk downs, with uninterrupted view and freedom of movement, present the opportunity of watching combined tactics on a large scale such as could never be hoped for in the ordinary English country, broken up by hedges and blinded by woods. Here in Wiltshire only the valleys are enclosed as a rule, and winding amongst these valleys run a succession of streams affording valuable tactical features. The intervening high ground generally consists of broad plateaus with slightly curved crest, falling away towards the main valleys in a succession of spurs and intervening water-courses. These minor features, whilst easily overlooked from the commanding heights, afforded many an object-lesson as to the value of ground to those troops whose fortune it was to have to work over them. On more than one occasion it looked to us that the issue of the day's fight depended on the appreciation of these smaller folds, as lending themselves to a flanking, or at least enveloping, movement on the part of one commander or the other. Moreover, here were many occasions on which the action of subordinate leaders might well have exercised a most important and instructive effect on the day's operations.

as a whole. It was, therefore, often a matter for regret that other considerations necessitated the sounding of the "Cease fire" at quite an early stage of the fight. This must have been especially the case with the Directing Staff, who know from experience the effect which local, and sometimes even apparently unimportant, successes may have on the general result. Taken as a whole, therefore, the lessons gained in Minor Tactics, and the handling of the comparatively smaller units, was disappointing, whereas had time permitted, these minor features of ground might well have afforded many opportunities for the exercise of judgment and self-reliance on the part of subordinates. If only the commanders on each side could have been freed from the ever-haunting fixed camping ground for the night, the day's operations would certainly have been more interesting sometimes to us lookers-on, and, I venture to think, more instructive to those engaged in them.

#### IV.—COMPOSITION AND ORGANISATION OF OPPOSING ARMIES.

The composition and organisation of the two armies present many points of interest, the more so, perhaps, from the fact that the latter did not conform, except in the broadest manner, to the existing war establishments. Roughly speaking, there were two opposing army corps, with a cavalry brigade added in each case. With the exception of the Regular battalions forming the four brigades of the 1st and 2nd Divisions of the Northern Army—which battalions had been accustomed to work together at Aldershot under the same chief—all the troops had been shovelled together and collected in heaps from various parts of the kingdom. Their commanders, moreover, were strange to them, their respective staffs were also strange to them and strange to their leaders. As this is just what would occur on mobilisation, for home defence at least, the experiment had its value, but to the best of troops it would always prove a severe test. As my own experience lay wholly with the Northern Army I can speak only of them, but of them I can safely say that the difference between the divisions from Aldershot and that which was pieced together in the way I have mentioned above was at first very marked. The more credit, then, to these other hastily collected units that they settled down into their places so rapidly and so effectively. I am only able to judge of the Southern Army from the way in which they went by the saluting point on the last day on Boscombe Down, but, to judge from that performance, their time together had certainly not been wasted. The organisation of the brigades was further complicated by the addition of two Militia battalions in each case. These were of a strength of six companies, whereas the Regulars mustered but four. I will not for a moment admit that I consider the addition of these Militia units a drawback in any way; but as regards the Aldershot troops, at least, it certainly tended to destroy their homogeneous character at the start. Speaking as a Militiaman of some years' service, I am proud to think that our Force will always be found of value in the service of our country; and with a reasonable time to enable us to get into shape, I firmly



believe that such Force will do credit to itself and be no discredit to the Regular battalions with which it is now so closely connected. In this connection it is pleasant to note the arrangement by which the Militia units served in the same brigades as their Regular battalions, and I trust that one, out of the many, good results of the manœuvres may be that some of these sister battalions may have learnt to know each other better, and to appreciate each other accordingly. Of the artillery units much the same may be said, as regards the brigade divisions coming solid from Aldershot and those built up from other quarters. I have no desire to take part in a controversy which appeared recently in one of the Service journals, the more especially as I have already owned that I was partisan throughout; but as far as my observation enabled me to judge, it seemed that our guns quite overpowered and out-manœuvred those of the enemy, owing either to better handling or more thorough co-operation. Of the cavalry I mean to say practically nothing this afternoon, since I read that an officer of that arm will address an audience here shortly as to their doings at the manœuvres. Having studied with some care the writings of that officer on certain professional matters, I feel convinced that he will read you a valuable paper, and it would be highly presumptuous of me to poach on his preserves. I should like, however, to say that I am a firm believer in the value of cavalry not only before the battle but during the battle itself, and possibly most of all when the battle is over, whether it be lost or whether it be won. To my mind the day of the "white arm" is not past; and as we English can if we choose have the best cavalry in the world, we ought to have it. Of the other corps and departments the record is in many instances painful, since they were but skeletons at best. The old naval maxim here with reference to the ship and one half-pennyworth of tar seems to me strangely applicable. Our rank and file will fight in the future as they have fought before; our officers and non-commissioned officers will lead them as of old; but it has been so often in the departmental units that we have fallen short, with consequent delay and vastly increased expenditure. Is it not therefore wiser, whilst we are spending, to spend yet a little more and do the thing thoroughly—and if needs be, find out an additional weakness? It would seem more satisfactory to work if necessary with smaller forces, but to have those forces complete for war in all respects. I venture to submit that in certain branches in September last the provision for the chapter of accidents approached very closely the limit of breaking strain. This again seems to me false economy, and calculated to imperil success as well as to take away from the reality of the training.

#### V.—THE RESPECTIVE COMMANDERS.

It would be highly improper for me to attempt to criticise the respective commanders of the Home and Invading Forces, but I think it may be of interest to remind you of certain points in connection with them. The Defending Army was, as it should be, under the command of



the soldier son of our Gracious Sovereign—General H.R.H. the Duke of Connaught. Throughout his professional career this officer has been known as an earnest, painstaking student of the art of war, and I submit that the manœuvres of last September have served to show that such study has borne good fruit. A careful perusal, moreover, of the thoughtful Report furnished by H.R.H. on their conclusion will confirm such opinion. As regards other leaders of the Northern Army, I must confess to a feeling of amusement when I remember a favourite query shortly before the operations commenced. It may fairly be assumed that the private soldier, in the sanctity of his barrack-room, criticises somewhat freely his regimental officers—and, I fancy, generally comes pretty near the mark in such criticism. Similarly the regimental officer, in the sanctity of his own mess, sometimes criticises, somewhat freely too, those superior beings in “brass hats” whose duty it is to order us about at field days and manœuvres, and at whose dreaded approach we—some of us—literally quake in our shoes. The query then—awful though it sounds, and reluctant as I am to repeat it—was, “Where are the brains of the Northern Army?” Picture to yourself my horror at such a question, since it was my duty to observe the doings of that army from day to day. At once I realised what was going to happen—worsted in each fight, out-generalled and out-manœuvred, the defenders of our hearths and homes were about to suffer severe punishment and ignominious defeat. Well, ladies and gentlemen, I have warned you that I was a partisan throughout, but I reply to that obnoxious query that the brains of the Northern Army were somewhere at all events, with the result that in the daily conflicts it invariably held its own at least against the invaders, and that on the last day of fighting it was not our army which suffered any defeat.

It seemed to have been forgotten that the Northern commander, moreover, had already had more experience in the handling of large forces, owing to his Indian experience, than had any other commander. And it struck me very quickly that amongst the Head Quarters Staff of our Force there was a refreshing absence of fuss or worry which augured well for success. I must not be taken to infer from this statement that these undesirable accompaniments were present in the case of our foes, for it was never my fortune to see them except from a reasonably safe distance. It was also a real pleasure to observe that the writer of the best-known and most widely-read work on Tactics—indeed, the pioneer of the present mass of literature on that subject—proved himself to be, if proof were needed, equally able to handle living bodies of men. In our own Service it has been shown often enough that the man of the sword may equally be a man of the pen, and several instances will occur to you at the very summit of the military ladder. Opposed to us, moreover, were two noted wielders of that weapon which our copybooks used to tell us is mightier even than the sword.

As regards the Southern Army, we knew, therefore, that there were plenty of brains, and we knew, moreover, that its commander, General Sir Redvers Buller, is a thoroughly practical soldier and a born leader of men. If it were my own good fortune to go on service to-morrow,

I know that under no one should I be more anxious to serve than under the "Blue" commander, much as I hated him for the first seven days of September last. I have an idea that this distinguished officer—who will, I trust, if he reads this paper, forgive my frank expression of temporary hatred—was not much enamoured of the "imaginary" portions of the schemes with which he had to deal, and certainly on the last day of the operations it seemed as though he had taken the information regarding the safety of his left to mean rather more than was intended to be conveyed by the framers of the scheme. It does not ever do—on service or otherwise—to credit all the rumours which are current in camp; but some inventive genius set it about that if the "Blue" commander heard very much more about the "imaginary" force, which had, in theory, effected a landing in the neighbourhood of Bristol, he intended to march his army to join it, and leave us "Reds" near Salisbury to play by ourselves. Of course this cannot really have been said, but it amused us—and hurt no one. Anyhow the very wise ones who thought that the Invading Army were going to "eat up" our Home Force, when and how they chose, turned out to be mistaken. In the result it was shown that there were plenty of brains in both armies, and plenty of will and energy to carry out the workings of such brains. The report of the Southern commander is also a valuable document, and well repays careful study. The further Report of the War Office Committee on the manœuvres, over which the "Red" commander presided, and on which the "Blue" commander sat as a member, has now also appeared to prove still more clearly how superfluous this paper of mine has become. Even a cursory reading of this latest Report shows clearly how many lessons of value have been deduced from the operations of September last.

#### VI.—THE ASSEMBLY OF THE ARMIES.

It will be remembered that the manœuvre operations, lasting continuously from 1st July to 8th September, were divided into three clearly defined periods. The cavalry exercises extended over eight weeks from the former date. The "drills" of the larger units of the other arms lasted from 15th to 31st August, whilst the manœuvres proper filled up the remaining eight days. The Aldershot troops carried out their drills at their own station, only one division, therefore, of the Northern Army having to assemble and put in theirs in the manœuvre area. The whole of the Southern Army being, so to speak, a scratch pack—without intending any disrespect by such term—assembled for their drills in the south-eastern extremity of the theatre of war, close to their theoretical place of landing. The troops of the Northern Army, other than those from Aldershot, had many of them long railway journeys, involving the passage of their trains over several systems, whilst those to form the Southern Force had in many cases a sea-voyage intervening as well. Since this is what must occur in many cases on mobilisation, the experience gained thereby, both by the railway staff as well as by the military authorities, must be recognised as of the greatest value. The railway companies evidently laid themselves out to do their part of the work thoroughly, and it must

not be forgotten that the ordinary traffic, so far from being suspended, was often exceptionally heavy, in the manœuvre region at all events, owing to the influx of visitors and the unusual journeyings of inhabitants. Amongst the many matters, therefore, for congratulation, not the least must be the proof of our railway capabilities. Various faults and oversights came to light in matters of detail, but by the noting of these we shall gain in the future. The strain on the responsible officials must at times have been very heavy; the staff was often sadly overworked; but, speaking from personal experience, it is pleasant to be able to record that not one single case of discourtesy, or want of consideration, was met with. Indeed, very much the reverse, when one might well have forgiven a possible brevity of manner. Certain units on their journeyings had uncomfortable waits sometimes, no doubt, but the majority of such sufferers appeared to realise that they were playing at war and must be content to take the rough with the smooth. To such as had not played the real game, it was moreover not a bad reminder that even in manœuvre warfare there will sometimes be a rough side. None the less should every effort be made by those responsible for the comfort of their men, that no unnecessary hardships should have to be suffered by them, owing to the lack of forethought and careful preparation.

#### VII.—TRANSPORT AND SUPPLY.

The total amount of transport used during the manœuvres consisted of 1,514 vehicles, 4,619 horses and mules, and 2,420 drivers. Of the former some two-thirds, of the two latter rather more than one-half, had to be hired from civilian sources. The experiment therefore was one of extreme interest when viewed in the light of the possibility of utilising the civilian element in time of national need, and particularly for home defence. The hired wagons were apportioned to units as regimental transport but remained in charge of the Army Service Corps companies, the weakness of whose cadres was such that the civilian increase practically swamped them. The more credit therefore is due to the military branch for the way in which they managed somehow to carry out the duties required of them. It is fortunately not the custom of our people to sit down and own themselves beat when confronted by a serious difficulty, and in no instance was this constant struggle with the apparently impossible more marked than in this connection. Here was, to my mind, the big failure of the manœuvres, but here also the lesson learned was of most value. To drive this lesson home, however, I must ask you to bear with me whilst I say yet more on the subject. I have already alluded incidentally to the overloading and under-horsing of the civilian branch. The weighty words of Field-Marshal the Commander-in-Chief on the occasion of the concluding conference of the campaign should be taken to heart by every tax-payer who contributes his quota to the national insurance, as far as land defence is concerned. I quote from recollection only, but his words sank deep, and here is the pith of what he said:—  
“Much has been learned with regard to supply duties and organisation,

and especially as regards transport and supply.<sup>1</sup> It has been plainly shown that no amount of hard work, good-will, and disregard of expense can compensate for want of previous organisation." And you must remember that these are the words of a past master in organisation, whose many successful campaigns have been to a great extent dependent for their success on the care and forethought displayed in these particulars. Need I remind you of the great Duke of Wellington's constant anxiety and concern with regard to the same important services in the Peninsula? The successful general in war is he who can not only handle his troops in the presence of the enemy, but can feed and clothe them and tend the sick throughout the operations, in order to obtain the full fighting power from them when the occasion arises. The critical foreigner is apt to chaff us as a nation on our requirements in the feeding line, when on the war-path; but I have yet to learn of the Army, which in the face of want of proper food, want of sufficient clothing, and want of proper medical arrangements, could prosecute a campaign for any length of time or bring it to a successful conclusion—unless, perchance, owing to the supineness or utter demoralisation of the foe. It is the quiet, unobtrusive working of the machinery *behind* the Army which more often than not ensures the victory of the troops actually facing the enemy, and although the part played by the former is not so showy and does not appeal in the same way to the unobservant or hasty critic, it is none the less important.

<sup>1</sup> In this connection my good friend, and kindly critic, Dr. T. Miller Maguire, has since pointed out to me how fully this statement of the Commander-in-Chief was borne out in the recent Tirah campaign. I therefore add a few extracts from Captain L. J. Shadwell's interesting work, "Lockhart's Advance through Tirah." After pointing out that some 13,370 camels and bullocks and 29,440 other pack animals were required for the Tirah Expedition alone, Captain Shadwell writes:—"Out of this large number only a comparatively small proportion were Government animals, the surplus required had to be bought or hired. . . . The transport animals, more particularly the ponies and donkeys with which some of the troops were provided, were absolutely unfit for the purpose in view." He then contrasts, very favourably to the latter, the arrangements in force amongst the Imperial Service troops, paid, equipped, and maintained by the loyal native princes of India. Most of these troops consist of cavalry and infantry, some princes in addition maintaining "sappers and miners," whilst the rulers of Jeypore and Gwalior each keep up "an admirably equipped transport train."

"These Jeypore and Gwalior transport trains, placed as they were entirely at the service of the Indian Government, were of the greatest possible assistance; and their animals showed a marked contrast to the ponies bought and hired just before the Tirah Expedition. Not only was much of the delay at the beginning of the campaign due (to use a very mild term) to the inferior transport, but a great many of the animals bought for the expedition, instead of being sent to Kohat ready equipped, were dispatched without pack-saddles, bridles, or any equipment at all."

And as regards other means of transport:—"All the Government wheeled transport, together with the Jeypore and Gwalior carts, worked admirably, and if only the *hired contractors'* carts and the 'maundagi' carts could have been dispensed with, the constant blocks, breakdowns, and delays on the road would have been almost entirely obviated."

Altogether a very valuable chapter is this one on "The Transport"—and from Real War.—J. M.-W.

To those who read between the lines of our recent doings in the Soudan, Cairo and London are just as important as the Atbara and Omdurman. The Commander-in-Chief went on to praise the Army Service Corps of the two armies, and in repeating such praise in his Report he urges the necessity of an increase in their numbers. False economy here would be simply suicidal, for it must be obvious that an Army, however well trained, however brave, and however well equipped in other respects, becomes but a helpless, inert mass of human beings if incapable of movement on account of lack of transport or lack of supplies. I trust, therefore, to see ere long a notable increase in the twin-corps, even though it may necessitate my putting my hand a little deeper in my pocket to satisfy our well-known annual correspondent "I.T." I have heard an interesting suggestion, from a practical soldier, as to the feasibility of forming a branch of the Army Service Corps in connection with the Militia, which I would much like to hear discussed. There would seem to be a number of men who at present join no portion of Her Majesty's forces—men, too, accustomed to deal with horses and vehicles for the best part of their lives. It need not in any case be a costly experiment. Time-expired cavalrymen might serve to increase its numbers, and officers be transferred to it from the Regular corps. This would serve materially to relieve the pressure in case of mobilisation, for home defence in particular, although a special reserve might well be created with liability for foreign service, as in the case of the Infantry Militia.

As a summary of the result of the recent experiment in hastily organised civilian transport, I will only add a couple of paragraphs which appeared in an admirable—if somewhat pugnacious—little evening journal, and which, as far as my own experience goes, are perfectly true:—"There were want of system, want of order, want of discipline, and wagons overloaded, often over-crowded with the human element in addition, and as often under-horsed. It is positively a marvel that the contractors, in their ignorance, got through the task somehow, even as well as they did, and it speaks volumes for the discipline and good feeling of the British Army—as represented at the manœuvres—that the cases of grumbling and occasional irregularities were but few and far between."

#### VIII.—SCHEMES AND UMPIRING.

It is to be regretted that the Report does not contain a more detailed criticism of the tactical working of the schemes. Reference, however, is made to Lieut.-General Sir Henry Brackenbury's Report thereon, which it is to be hoped may be obtainable in due course. The schemes to me were of daily interest, and the general intelligence displayed in their execution formed a hopeful feature of the manœuvres. Much time and care must have been expended in framing them, when the difficulties are considered. The water and camping bogeys were ever-present realities, killing all freedom of idea, and hampering every move. Is there, then, no way of overcoming these difficulties in future years? I think that "yes." The "imaginary" element has been in some cases somewhat



roughly handled, but more often than not it seemed to me that the "imaginary" force not only increased the interest but also the reality of the situation. The special arrangements for umpiring were drawn up most carefully, and the introduction of Reporting Officers, on our side at least, worked well. Whenever I found myself in a tight corner where some interesting situation was in process of solution, I invariably found one of the Umpire Staff ready to give his decision. This same setting of schemes, and the subsequent umpiring, form no light tasks, involving as they do the exercise of considerable judgment. True that the fights were not developed as one could have wished, and that as a consequence the subordinate commanders as well as the rank and file missed the opportunity of many valuable lessons in Tactics. But our manœuvres were meant to be on a large scale, and I am convinced that the higher leaders of both armies must have profited much by the experience gained in the handling of the larger units; and surely such increased knowledge is well-nigh priceless.

As regards the "enemy," it appears that the umpiring did not by any means give entire satisfaction—to put it mildly—and their commander does not hesitate to say so in his powerful Report. And especially does he fall foul of his unfortunate Reporting Officers. According to Sir Redvers Buller, "The arrangements for the distribution and duties of the Umpire Staff were the most complete I have known, the result of their work was far the most unsatisfactory." Coming from such an acknowledged authority, these are crushing words, and I therefore consider it but bare justice to record my own individual experience. As to the purely passive *role* of the Reporting Officers, this was clearly laid down for them, and doubtless the authorities will consider whether it is desirable in future. The partisan spirit is again about to show itself. Can it be that as "we"—the Northerners—were, invariably successful, our enemies were inclined to think themselves hardly treated? Possibly, however, they did not consider themselves always beaten, for on subsequently reading the accounts of their daily doings as chronicled by my very special enemy—the correspondent of "A Morning Paper" attached to the Invading Force—I found to my surprise that a victory is claimed for them by him in every single fight except the last, that on the River Avon. Even he had to own himself beaten in that interesting engagement.

I would here refer to the admirable work of another zealous band of watchers—those officers of the Auxiliary Forces who attended the camp at Tisbury formed by Colonel the Hon. H. Crichton, the brigadier-general commanding Portsmouth Volunteer Infantry Brigade. It was my good fortune to witness their system of working, and I am convinced that much good was derived by all the officers concerned. The plan was to detail the various members to observe the doings of different units of the Forces engaged. On the conclusion of the day's operations each officer so detailed furnished a written report, which was duly read out at the after-mess gathering. A discussion then followed, and the commandant summed up. Especially interesting to me were his remarks on



cavalry, he being himself an old cavalry officer. Every facility was given by the Head Quarters Staff for learning what was likely to happen the following day, and in his remarks on the concluding day of active operations the Commander-in-Chief referred to the work done in most flattering terms. This is a system which I hope may be extended in future years, and be productive of much benefit to those concerned.

#### IX.—THE OPERATIONS.

And now a curious thing happens—and one which serves to show that in peace as in war it is the unexpected which arrives. I have come to the part of Hamlet in my play, and you will find that the part is practically cut. I myself thought that the play would be all Hamlet, whereas the other characters appear to have crowded him out. Probably I was expected to deal mainly with the daily operations, and especially perhaps from the tactical point of view. I have, however, but little to say, since they form a large study in themselves, and deserve a separate paper, which I hope some one will read in this place. I found the operations of the greatest interest, and was very much impressed with the zeal displayed by all ranks in their execution. But it was only of the larger movements that one could judge from one's own observation, and what impressed me most was often how little one could see of what was going on. It is highly to be regretted that the fights could not have been continued to a more definite issue on nearly every occasion, but in many cases, as it was, there were useful lessons learned which should prove of value to those engaged. One of the serious problems, however, for future years is how to combine battle training for the subordinate commanders, and for the rank and file, with that afforded to superiors and their Staffs. One or two points only I will mention which came under my especial notice.

On the second day, that is, the first on which the contending infantry were engaged, a curious illustration of the "Fog of Manœuvre" occurred, which shows how apt and true is that lately coined expression—the "Fog of War." As I understood, from the official pink paper, the task of our chief on that day for the defending army, it was to "seize the high ground about Charlton Down, and prevent the enemy advancing on *Salisbury*." And yet after the "Cease fire" had sounded, a staff officer handed me a very similar pink paper, on which was printed the identical order, except that in lieu of *Salisbury*, *Shaftesbury* was substituted. I have both papers here, and, to the best of my belief, at least one of our divisions was acting under the latter special idea. To anyone knowing the locality and circumstances, the importance of the difference will be obvious. I notice from the Report of the C.R.E., Northern Army, that their Field Park "was entirely employed in carrying pumps and hose, and was generally sent on ahead" of the troops; but even if it were the fault of their printers, the Engineers did such good work, and for which they have received such good praise, that we should feel obliged to deal leniently with the type-setters. Moreover, a very slight acquaintance with even the professional printer shows one that he is not mortal—nor is he an angel. On this same day

another point worried me, which was to understand how the invading infantry could have reached Melbury Hill and Compton Down before our first division could get there. This in the light of later experience. Our infantry should have been only some two miles distant, according to Army Orders, whereas, according to the narrative since issued, the invaders were over three miles away, as the crow flies, at the starting hour of 9 a.m., and further, this important hill of Melbury lay practically within the line assigned to our cavalry. And yet, before 10 a.m. apparently, their infantry was in position there, and stopped our attempts to occupy our intended right. I have often wondered whether the 5th Division, instead of marching to "Level 614, Hill Farm," marched to the cross roads at "Hill Farm" nearly two miles further north, and consequently nearer by that distance to the important hill in question. I do not wish to suggest that it was a manœuvre trick, but, however it happened, the fact entirely altered our commander's original plan. It was, therefore, an unpleasant surprise to find that it was not to be ours.

The next day's operations (Saturday) have been the most severely criticised, but a Prussian officer in speaking of this day reminded me of von Moltke's maxim, "If you mean to go, go." I must add, too, that in my humble opinion a flanking position on this day for the defenders appeared to offer peculiar advantages. Monday's fight presented many points of interest, although the cavalry conditions led to an unfortunate muddle at starting. The following day's rear-guard action afforded very valuable instruction to about one-sixth of our force, and caused the enemy to deploy at least four times the same strength against us, a highly successful achievement—at least as we saw it. The cream of the fighting came on the Wednesday—the concluding day of active operations—when occurred the memorable struggle for the River Avon. Ladies and gentlemen, I could easily bore you for an hour or more with a description of that fight alone, but I will spare you. Suffice it to say that it was a genuine success for our arms, always admitting that our rival commander was apparently misled by the wording of his scheme. I will, therefore, quit this fascinating branch of the subject and pass on to other matters. I must, however, first say a word as to the terribly late hour of the night, or rather early hour of the morning, at which the orders were sometimes received, even by commanders of the larger units. The effect of this was that their staffs were often deprived of a large portion of their much-needed rest, those of the smaller units being naturally in even worse plight.

#### X.—THE MARCH PAST.

The concluding day of the manœuvres, 8th September, was essentially for the people; and since the people pay the piper, it would seem only fair that they should be permitted to select the particular tune preferred. Granting, then, for the moment that such a display is necessary, or at all events desirable, I have no hesitation in saying that nothing could have been more admirably arranged or carried out. The sight was a very beautiful one, and that the people from all the countryside thoroughly enjoyed the spectacle there can be no doubt. The two

armies—or army corps, as you please—drawn up in their long and deep line of massed columns looked imposing. The weather was perfect, and everyone bent on enjoying to the full the beauties of nature as well as the grandness of the performance. For performance it was, after all, and the stage management must be cordially congratulated on their evident appreciation of the highest art—the *ars celare artem*. But does the country care to pay something over £25,000 for its gratification, when one comes to think it over quietly afterwards?

A double interest was imparted to the display, moreover, from the then recent successes of our troops, with their Egyptian and Soudanese comrades, in the far Soudan. The lately contending armies which marched past on Boscombe Down may have been but insignificant in numbers as compared with Continental hosts, but they presented no mean show certainly as regards quality; and unless our foreign visitors and critics are terrible humbugs, they—the latter—were, to my knowledge, very favourably impressed. We know that guests think it their duty to be polite, but there is no obligation upon them to be effusive in their approval. And they were so in more than one instance. I have often wished that I could read the confidential reports furnished to the several foreign Governments by their representatives. They might just as well tell us what they really thought, for we all know how delightful it is “to see ourselves as others see us”—sometimes—but I don’t suppose they will. They will be just as polite as always, and will talk of our good points, and note only for themselves the weak ones.

As regards the bearing of the troops from a professional point of view, I made some notes at the time, of which I will give you a summary. I find that in two important respects I turned traitor on that last day, but then it must be remembered that the war was over, and peace duly decided upon. These notes were recorded on the feeling of the moment “without partiality, favour, or affection.” As regards the infantry, it is a curious fact that, speaking generally, the “Invaders,” or Southern Army, went by much better than our Home Army. But so it was in my opinion. And next, although I know full well that my old battalion is undoubtedly the best in the world, and although it marched past extremely well, it did not strike me as being absolutely the best on the field. It was a rude shock at the time; but I have promised to tell truly, traitor though I feel. I can only trust that I shall not be made to suffer for my candour. Of individual battalions, it seemed to me that none came up to the Scottish Rifles in the way they passed the flag. Possibly the presence of the Commander-in-Chief and Adjutant-General, both of whom had served therein, put them on their mettle. The Militia battalions were no discredit to their respective brigades in the manner in which they went past, and I find entered against the 6th Battalion of Royal Fusiliers—“Sturdy lot.” The words for the 2nd Division—General Clery’s—as a whole, being “Good throughout.” Of the brigades, that of Major-General Hallam Parr seemed to me the best, the two Militia battalions of Connaught Rangers in it being a special credit to the sister isle. Of the divisions, as a whole, none, I thought, came up to that of

General Sir William Butler—the 5th. Amongst the corps troops of “Blue” I find the Durham Light Infantry noted as “Excellent.” As regards the mounted arms, the display was most imposing, and the final gallop past raised cheers from the spectators which will not be soon forgotten. We are accustomed to see our cavalry go by well, as also the artillery, but on this occasion the horse batteries fairly surpassed even themselves in their furious gallop past. On the day following I met a countryman at a local junction many miles away, and he could talk of nothing else but the wild thunder past of these flying batteries. It appeared that he had driven a large party in his lumbering wain to Salisbury, starting fairly early on the Wednesday. Unable to find a roof to cover them for the night in that quaint, old-world, city, the party then “out-spanned” on Boscombe Down, and camped out for the night. After the display was over, he drove his party home again, arriving late on Thursday night—the distance covered being close on 90 miles. I asked him whether he thought it was worth it, to which he replied—and apparently quite astonished at the query—that he wished he could do it again to see the same sight. And yet I venture to urge that such a display is unnecessary and not worth the sum of money which it means. If recruiting were sufficiently encouraged by such pageantry I should be all in favour of a concluding march past, but I doubt it. The time for real training is all too short. One day lost is still one lost day.

#### XI.—THE MILITIA BATTALIONS.

Since the publication of the Official Report I have seen several letters in a Service paper on the subject of the discipline, or rather the want of discipline, in that Force. I promised to record my own impressions as well as my own experiences, and this I can safely say, that I never once saw any indication of the insubordinate spirit referred to by “A (late) Militia C.O.” in the *Broad Arrow* of February 11th. As far as I could see, the Militia battalions were as the Line battalions, except that they were more sturdy and well-grown as a rule. I took a special and personal interest in watching them when in action, and found that they behaved well. In some cases it struck me that the officers were lacking in experience, but this is scarcely to be wondered at. And here I would venture to suggest to the authorities that keen Militia officers often think that their endeavours to increase their professional knowledge—and consequently their professional value—are not encouraged as they might be, and, in my opinion, as they ought to be. As regards the men, I heard of a curious grievance of a Line sergeant, who complained at the manœuvres that it was impossible for lookers-on to distinguish Regulars from Militia owing to similarity of uniform. In our Northern Army we had a case early in the campaign connected with insufficiency of supply in the matter of a canteen, and this resulted in a discreditable disturbance; but this was the only instance of which I am aware, and it strikes me that the “(late) Militia C.O.” must have been strangely unfortunate in his experiences of our Force. As far as my own experience of the Militia is concerned, I

should be proud to produce the defaulter sheets of the battalion in which I have the honour to serve, and would be further prepared to vouch for the fact that there is no screening of crime. And of many other battalions I know the same story. Is discipline, for the matter of that, absolutely perfect in our own Regular Army or in those of Continental Armies? If the treatment accorded to the Militia, as well as to the Regulars, by the inhabitants of Wiltshire may be taken as any criterion, I can safely state that their behaviour was good, for the Militia were treated in exactly the same way by these kind-hearted folk as were their brethren of the Regulars. But some one—"the (late) Militia C.O.," perhaps—may urge that the inhabitants in their ignorance were not able to distinguish the one from the other. *Quod erat demonstrandum*. For if there had been any marked distinction it could only have been in the matter of behaviour or lack of soldier-like bearing. And this appears to me to show that our men of the Militia are worthy of wearing the same uniform as our Line battalions. Before quitting this subject I would desire to add that the invariable kindness and consideration displayed by the countrypeople, and the townspeople too, rich and poor alike, towards our soldiery struck me as being one of the healthiest signs of the times. The old prejudice against the profession of arms is slowly but surely breaking down. May the time soon come when the real nobility of such profession is appreciated by all grades of society, and when any slight to Her Majesty's uniform may be looked on as a slight to the nation at large! When war is "on," the soldier is applauded and made much of, but when peace ensues in due course too many still forget their indebtedness to those who have risked their lives perhaps, their health certainly, in defending the honour of the Flag in foreign climes. May the day never come that our people shall have cause to curse themselves and their rulers for neglecting to consider the question of home defence of sufficient importance to be willing to suffer possibly some slight inconvenience even in the perfecting of the military machine!

#### XII.—THE WORKING OF THE ACT AND COMPENSATION.

As regards the working of the Manœuvres Act in 1898, I am bound to say that I found myself very much out in my expectations. I had studied the Act with some care, and I thought that there were sure to be all sorts of troubles and hitches when it came to be put in execution. As a matter of fact, there were none of any importance that I ever heard of, and naturally, as I, in my fancied astuteness, had thought that it would break down, I tried my best to hear of any. As I have already suggested, we have to thank the local authorities for the broad-minded way in which they accepted the spirit of the Act, and I think it only fair to add from what I have since learned that a considerable measure of this success is due to the very tactful manner in which the secretary to the Commissioners placed the matter on occasions before those local authorities. The Commissioners in concluding their Report "desire to express their high sense of the ability, tact, and industry" of this responsible officer. And in thanking him for "his very valuable services," they add that "the



successful working of the Act of Parliament, and the preparation of the ground for the manœuvres, involving, as both operations did, an immense amount of laborious work, were almost entirely due to his energetic and most able labours." The apparent antagonism which occasionally shows itself in this country between the civil authorities as opposed to the military, is a curious and interesting relic of those memorable days when the former feared to grant any power to the latter. Happily, those days seem to be passing away. As regards the Act itself, it is delightfully short. The one line which serves to introduce it states that it is "an Act to facilitate Military Manœuvres." Ergo, any provision which may be found in it calculated *not* to facilitate military manœuvres is contrary to the spirit of that Act, whatever the letter may be. But it is the letter which kills, and whatever success it may have achieved during the past year owing to the liberal interpretation placed upon its contents, we must bear in mind that it will always be open to some cross-grained pedants to read it in a narrow sense, and it would seem desirable, therefore, that it should be so modified as to prevent possible misconstruction in the future. In the first place, I hope it is true that the Commission for the working of the Act is to be of a permanent nature as regards its nucleus, with additional local representatives each year when the locality for the next ensuing manœuvres has been fixed definitely. Also that more time may be provided for preliminary arrangements.

The Act contains but ten sections, the three last being purely formal. Section 1 deals with the opportunities to be given for objecting to the Act. A draft order has to be sent to all the local councils affected at least six months before such completed order will come into force. Moreover, such draft is not to be submitted to Her Majesty until it has been before each House of Parliament for at least thirty days on which such House sits, and further, unless each House presents an address praying for such order. Then Her Majesty is empowered to issue an Order in Council authorising manœuvres in accordance with the Act. Would not three months be sufficient? This, I now see, is suggested in the Official Report. Section 2 deals with the powers exercisable for purposes of manœuvres. As regards the prevention of trespass and damage by civilians the powers are none too clear. "The officer in command," says the Act, "shall be empowered to prevent trespass or damage to property by persons not belonging to the Forces." To what extent can force, if necessary, be used? Section 7 will be found to have a certain bearing on the case, but the provisions might well be more clear as well as more stringent. Candidly, I do not understand what that "shall be empowered to prevent" may mean. Section 3 refers to the closing of roads; but what with restrictions relating to "two justices of the peace, not being military officers in command of the Forces," and petty sessions, and due notice in the newspapers, and so forth, and so forth, the value of the concession as regards military manœuvres practically vanishes into thin air, since the opposing commanders could be easily aware of the other's intentions.



Section 4 deals with the Commission, but only two representative members may be appointed for each county, two for the New Forest, and the remainder, to be appointed by the Secretary of State, must not be as numerous as the representative members. As but two counties—Dorset and Wilts—were last year affected, the total number amounted to seven, and although the Commission may act by three of its number, the margin of safety is very small if many meetings should be required. Section 5 grants power to the Commission to make certain orders and regulations. They determine what lands, roads, and sources of water are to be “authorised” lands, roads, and sources within the meaning of the Act. But prior to such order being made, a draft must be sent to the District Council and notice advertised for two successive weeks in at least two newspapers circulating generally within those limits. Surely, as the county has two representative members on the Commission, this seems an ultra-careful safeguarding of rights. The Commission must hold at least one public meeting to hear objections to the draft order, and, “if necessary,” revise this draft order, and within a week of such meeting send the revised draft to the objecting council. I happen to know that in 1898 four of such meetings were wanted in one single day. Naturally, the small numbers of the Commission rendered this quite impossible. With an obstructive clerk to the magistrates the possibilities seem almost boundless. The next section, 6, is of the highest importance, since it deals with compensation for “damage.” Under it compensation officers may be appointed, *with the concurrence of the Treasury*—how the very name of that dreaded department of State frightens most of us in relation to military matters!—and these officers authorised to determine as speedily as possible any claim and settle the amount payable. The claims were certainly settled generally as speedily as possible, and on occasion the ready £5 cheque was almost a matter of chaff. But I fear very much that the Bill for Compensation must have been very widely removed from a joke. It must not be forgotten that the next shower of rain may materially alter the estimate as to damage inflicted by the passage of troops over land, and such speedy settlement may well err in the matter of undue generosity to the damaged one. The Commissioners in their Report call attention to the practice of farmers employing professional valuers in assessing the amounts due to them as compensation, such valuers being paid a percentage on what they obtained for their clients. This is clearly wrong, and liable to lead to abuses. The paragraph concludes.—“Almost invariably, claims made through such agents appear to be exceedingly highly assessed.”

Section 7 is the last, other than those dealing with formalities, and provides for the punishment of certain offences—to wit, the wilful and unlawful obstruction of, or interference with, the execution of manœuvres, or the entering or remaining in camp without due authority. Such offender is liable to be removed by a constable, or by a commissioned officer, or by order of the latter; penalty 40s. Also with the removal of flags or other mark distinguishing, or the maliciously cutting or damaging any telegraph wire; penalty £5. But one would like to see here some

severe penalty for false or fraudulent claims in the matter of compensation. One well-known officer desired to attach to the notices begging claims for compensation to be sent in, a paragraph to the effect that any such claim, if found to be fraudulent, would entail severe penalties. But under the Act itself the claimant could not be touched. Would it not be as well, then, to insert some such provision in this section?

In conclusion, as regards compensation for damage, I have very little doubt that it would be hard to find any individual of the civil community who had not been handsomely recompensed in the matter. As regards the military element, I happen to know one or two decidedly hard cases the other way. Take the matter of uniform alone. Certain distinguished battalions wear white fatigue jackets. As these were undoubtedly too noticeable for tactical purposes, and would, moreover, serve to disclose the identity of opposing units, these unfortunates had to hack out their heavily laced red coats, thereby causing very grave inconvenience to the wearers, as well as very serious expense.

### XIII.—THE OFFICIAL REPORT.

I am assuming that my soldier listeners, at least, have studied with care the able and searching Report recently issued. Possibly even the ladies might find an interest in much of its contents, since the defence of our shores is of vital importance to them also. I have told you of my own rude awakening on its publication, but none the less it has given me the greatest pleasure to read. True that the administrative branches of the Service have received considerably more attention than the combative—or combatant. But it cannot be impressed too strongly how all-important are those same administrative branches. For the sake of brevity, in official work the purely combatant side is known as "A," the more civilian as "B." Well, the "B" side has certainly played the part of Jacob, and has successfully "supplanted" its brother Esau, the firstborn "A." But it is obvious that those in authority know only too well the importance of "B," and have chosen wisely. I, as an individual, attended these manœuvres in the hopes of learning all sorts of lessons in the detailed handling of the fighting troops. Wofully therefore was I disappointed in this respect, however interested I may have been in the larger handling of masses. When one considers, however, that with an inexperienced staff, or with an ill-organised "B" service, the finest fighting troops in the world are but a helpless conglomeration of wasted units, I think one must admit that the lesson as taught was of even greater value than tactical exercises. The bubble of civilian transport and civilian supply has been fairly burst—at least as regards the troops in front—and let us be thankful that we have learned the lesson in mimic warfare as between ourselves, rather than in the death grip with a hostile force upon our shores. Let us learn our lesson, therefore, and set our military house in order whilst we have yet time. Our men can fight; our men will fight; above all to defend our hearths and homes, our wives, our daughters, our mothers, our sisters. But in the absence of proper organisation, valour alone will not suffice. The French in 1871 were

brave enough and ready enough to suffer and to die. But of what avail were their efforts against the steady mechanism of the German hosts? The Southern commander sums up the situation when he writes of these manœuvres:—"They have cost a large sum, but they were cheap at any price." H.R.H. the Duke of Connaught, in his Report, puts his finger on a weak spot as regards the lack of instruction for subordinate commanders, and it is highly desirable, if possible, that such may be combined with the higher teaching, since still more value will be obtained. For my part, I fully believe that in future years, and in the light of growing experience, such *will* be obtained. It must not be forgotten that we are but beginners in the art of great manœuvres, and in the opinion of the official representative of a friendly great Power—from which we are ever ready to learn in matters military—these late manœuvres were, considering the many difficulties to be contended with, full of instruction. Possibly he meant to himself in a negative sense, and as a looker-on; but I do not think that he was so cruelly bitter in his comment. Lord Wolseley himself says:—"It would be optimistic to say that the fullest tactical value was obtained from each day's operations." Sir Redvers Buller, on the other hand, sums up his impressions as follows:—"The most valuable days to myself, and also to my staff, were, I am sure, those on which there were no collisions on a large scale. The lessons of manœuvres are not those given by stage battles." I wish to submit that if only a section of those engaged are to learn their lesson on these occasions, it is of infinitely greater importance to the nation that such section should consist of the higher commanders and the higher staffs, with plenty of object-lessons thrown in for the Head Quarters Staff at Pall Mall and the Directing Staff of the Manœuvres. But I contend further that there were many valuable lessons unconsciously learned by those lower in the military hierarchy. The experience of wars shows much marching and many periods of weary waiting. These are valuable experiences, and are much conducive to the perfecting and improvement of discipline. The troops which cannot remain inactive when required so to do—much as they may be longing to have their dash at the enemy—are not disciplined in the true sense of the word, and their waiting experiences in the recent manœuvres may well prove of inestimable value. Indeed this very waiting seemed often to me to be one of the most real features in the Salisbury campaign, and it is in this very respect that we have so often shown our pre-eminence in the past. Let us profit then by our own manœuvre experience, and whilst gladly availing ourselves of that of our Continental neighbours let us not forget the essentially different conditions under which theirs are held, and let us not be too ready to condemn root and branch a first experiment because it does not work absolutely without hitch.

#### XIV.—SUGGESTIONS.

It must be obvious to you by this time that the impressions formed by at least one disinterested spectator of our late manœuvres were distinctly favourable. The most noticeable features to my mind were the

genuine zeal and hard work of all concerned. If the energy was in some cases misapplied, or if adequate return was not obtained, it was through no fault of the worker—although possibly sometimes owing to want of previous training. Let us see, then, if we can devise some method of obtaining full value in future years. It appears to me that the time for us was scarcely ripe for manœuvres on such a large scale—interesting though they proved. With smaller forces engaged, the arrangements in all respects might be made complete, and carried out in every essential as though on active service. I would suggest, then, that, of Regulars at all events, there should be at the most but two opposing Divisions, with say a regiment of cavalry and a battery of R.H.A. added in each case. But these two Divisions must be complete in every detail—lock, stock, and barrel. Further, to obtain the full benefit of the training, I would suggest that these two Divisions should be dumped down one day—a Monday for choice—at two selected stations some three days' march from the area selected for contact. To obtain additional rail and steam-boat experience, let one Division come from Ireland. These two stations would serve as advanced depôts, and no civilian transport should be allowed in advance of them, or at most only that of the new-fashioned supply parks. All details of brigade and divisional supply columns, as well as similar field hospitals, and of bearer companies with brigades, to be completed to war strength. The fighting units to be made up also to war strength by the addition of their own reserve men, by which means an additional lesson of value would be obtained. Each commander might be ordered to find his opponent, and the marching experience would thus be gained. Batteries to be full and wagons complete. Ammunition Columns a reality—not the mere skeletons which we saw last year. Tents seem unfortunately to be looked upon as a necessity, but how far more real would be a modified system of billeting, and how much valuable experience would be gained by the necessity for arranging such billets on the spot as in war! Plenty of owners would be ready enough to hire out sheds and outbuildings; and authority, on reasonable payment, might be included in the Act—not the exaggerated rents which we saw paid for hire of camping-grounds last year. Outposts to be posted each night as on service; the troops to march with all military precautions. Regimental transport to be according to the authorised scale, and officers to make reasonable arrangements for living, as they would have to do in the field. It would seem no great hardship even if the general mess had to be broken up and company officers live together, as some of us have seen before. No luxuries to be permitted, and the intolerable strain of "minerals" rigorously prohibited. If beer or other intoxicants could under service conditions be procurable, let them now be so, but not otherwise. Let due precautions be taken for the prevention of excess or breaking of bounds, and let the punishment for such offences be exemplary. Is it contended that our officers and men would be so lacking in proper feeling and patriotism as to be unwilling to submit to such small privations, or even personal inconvenience?

I quote again from the *Globe*—of September 16th—since the views therein expressed coincide in every way with my own on the subject:—

“We would further urge that during manœuvres the troops should not be led to expect luxuries, as they were on this occasion, although in point of fact the fulfilment did not always come up to the expectation. To anyone who watched the hundreds of cases of ‘minerals’—the haulage of which is a serious matter indeed—being laboriously transported over the hilly country of Dorset and Wiltshire, the spectacle was a sad one, and not in accordance with common sense. Let the men have necessities by all means, and let them have plenty, but it is impossible to supply them with luxuries for which someone or something—in this case the unfortunate horses—must suffer. The British soldier may grumble, it is true, but the heart of the British soldier is in the right place, and he will be willing to deny himself when he realises the necessity. It may also be hoped that on the next occasion the supply columns shall not be considered as neutral, so that the commanders may have to take them into consideration in their calculations, whereby additional lessons of value may be gained. As to the question of dispensing altogether with tents or only on special occasions when some specially rapid operation is contemplated by either commander, or when the weather is exceptionally favourable—this must be a matter for future consideration.”

Would that every officer and man, likely to be engaged in future manœuvres, might read these words and weigh them well before expecting to be supplied with luxuries. Any one who witnessed the painful sights in connection with their transport, which I myself have seen, will realise the justice of this plea on behalf of the horses. In war, cruelty is sometimes a stern necessity; but in this one respect at least we can make our peace manœuvres a little less hard on our dumb and faithful accomplices.

On the Wednesday, then, of the suggested manœuvre week, the troops might be within striking distance of each other, and a short fight *might* take place if such would occur in reality, in consequence of the intentions and dispositions of respective commanders. It would not seem an impossible task to frame a scheme which should ensure their knocking their heads together within a certain limited area on the day selected. During the remaining days of the week, Thursday, Friday, and Saturday, the active operations would continue, and on the Saturday afternoon or evening, home they all go—pardon spectators, ladies and gentlemen all, and especially perhaps ladies—*without the inevitable march past*. Or allow a Sunday to be the middle day, and arrange accordingly. Say, at the outside, that the week's work will cost even £100,000. It is, after all, but the half of last year's bill, and I firmly believe that the country's defenders would get still more value from such arrangement. If more troops are thought desirable, why not utilise local Militia and local Yeomanry, and, if necessary further, local or other Volunteers? These would all appreciate it if they felt that the thing was real. As an alternative scheme, one of the forces might come wholly by sea, and gain the experience of disembarking on a hostile shore, the defending force being concentrated by rail, and supplemented by local auxiliaries. I throw out this latter suggestion in the hope that it may find favour with those in power, for it seems to me that it would provide the best possible test of the readiness or otherwise of our military machine to deal with a force which has succeeded in effecting a landing. As regards the working of



the supply and transport branches, the problem could scarcely present much difficulty to our Staff and Army Service Corps, since I myself found the pieces of the puzzle fitting themselves together after a little patient thought. If those engaged in such operations once felt that there was an actuality and reality about them, I believe that they would readily and cheerfully undergo some measure of discomfort or even of hardship.

From year to year the selected localities, for assembly and advanced depôts at least, might be varied, and at intervals, when Parliament felt especially generous, the magnitude of the operations and the numbers engaged might be increased. The benefit of the smaller years would then, I believe, be felt, and we should learn more fully our minimum requirements in the matter of the important "B" or administrative services. As regards the civilian element for these duties, if such there must be, it is absolutely essential that those employed during manœuvres must be subject, to some extent at least, to military law; or to some special legislation to be provided in an amended Manœuvres Act.

Moreover, full advantage could be taken, at least *en route* to the battle area, of the varied nature of English country. For home defence our troops require to be exercised in the average country of our island, and I would again impress on you that the open down land of Wilts and Dorset does not afford this kind of training. I leave it to more able minds than my own to develop this idea, and hope that the points which I have raised may be deemed worthy of discussion this afternoon.

#### XV.—CONCLUSION.

I would only add how pleased I am if I have disappointed some of you who, like Balak, the son of Zippor, came to-day in the hopes of hearing—well, not blessings, and who have found me a very Balaam, the son of Zeor. It is so easy to criticise—so hard to do. I maintain that the manœuvres of 1898 were a success, despite their little failures—perhaps even on account of those failures—and well worth the money expended on them. Honest hard work is never lost, and is a pleasure to see. The enormous amount of work got through by those concerned in these operations was both onerous and trying, and would scarcely be credited by those who sit in their comfortable arm-chairs and criticise. Speaking generally, too, the higher the sphere the greater was the labour involved. It is therefore only fair to record the fact. But the work was done without a murmur, and in many cases, as I can vouch for, without any particular idea of how much good work was being accomplished. The old dogged spirit of British pluck and British perseverance is not yet dead, and England's glory has not yet departed. If European complications must again one day come upon us, I do not think that an expeditionary force from these shores is likely to be despised or treated as a negligible quantity. Indeed, I think that such assistance is quite likely to be much sought after. As regards the work of our guiding staff, it must not be forgotten that immediately prior to, and during, the early



days of our Salisbury Manœuvres, some others of importance were in progress elsewhere—I allude to the Soudan. We all know the glorious results of those others, but I doubt whether quite enough credit has been given to those in authority at home here for their loyal co-operation and assistance. At the same time we in Wiltshire could not fail to notice the tension caused by the temporary uncertainty as to what the result of those even more important operations was to be. We felt that they must succeed, we knew from past experience that the guiding mind on the spot could be trusted, and yet until we received the definite news of success—and our guns thundered forth their welcome salute on that peaceful Sunday morn—the strain upon all of us refused to be relieved. But none the less our home campaign was carried through in the most thorough and painstaking manner. Mistakes there may have been, indeed mistakes there were. But so much the better for us, since by the making of mistakes we learn to avoid them in future; and I venture to say that to none are the mistakes then made better known than to those responsible for the Grand Manœuvres of 1898. By the recognition of such mistakes, and by their methodical correction, the military forces of the Crown will approach ever closer and closer to that ideal perfection never perhaps quite attainable.

Thus will Great Britain—and, I trust in the near future, Greater Britain—be enabled to maintain that leading position in the world's affairs which is hers by right of past successes, and the lives, so freely given, by many noble sons. Thus will she be ever ready to defend the honour of her Flag the wide world over, when her cause is just, and others choose to force a quarrel upon her. Her little Army will thus be ready, as of old, to devote itself, even unto death, for Justice and for Freedom. Ready, as of old, to fight for Queen and country, and, with unblemished honour, uphold the proud and kingly motto "*Dieu et mon droit*."

T. MILLER MAGUIRE, ESQ., LL.D. :—I should not, Sir, have risen in such an adventurous manner before so many experienced officers, only I began to feel that a kind of killing frost was following the admirable address of our excellent lecturer. I think it is very unfair after a lecturer has gone to all the pains of writing and delivering an elaborate treatise that his allocution should be followed by no discussion at all, although to some extent that is a compliment, because it seems to imply that everybody present agrees with every word that he has said. I happen to be one of those present agreeing with every word he said, in the main; but I venture to differ from him in two or three somewhat unimportant details. In the first place, I differ from him in this respect, that whereas he was a partisan and was attached, during the manœuvres, to one side only, it was my happy lot, during the manœuvres, which I followed from beginning to end, to be attached to both sides, and to be, therefore, entirely without any partisanship at all, and absolutely impartial. To me Red was as interesting as Blue, and Blue as attractive as Red. I agree with him entirely in believing that from start to finish the manœuvres were an admirable idea, most beneficial to all concerned; valuable to the soldiers, valuable to the civilians, and encouraging to the nation at large; tending to make the people of Wiltshire respect themselves, and tending to give a better tone to the Army itself, and a higher position to the Army in the opinion of its fellow citizens. From these points of view, if nothing else came from the manœuvres, they would have been worth twice the money that was spent upon them, because ours being

a volunteer Army, it is absolutely necessary that people should be encouraged to volunteer; and it is absolutely necessary that the friends of the people who volunteer should feel a sympathy with them, and that mothers and sisters should be proud of their relatives who join the Army. Accordingly, under the conditions which are nurtured by these manœuvres, you must get a better class of troops, and that better class of troops is well worth any money you can spend upon them. Therefore, I entirely agree with the learned lecturer that the manœuvres were well worth the money. In another point I agree with him, and that is, where he disclaims destructive criticism. It always strikes me as very curious that a large proportion of our military writers find everything to admire in every foreign Army and nothing but things to condemn in our own Army. Yet the history of our own Army is at least as good as the history of any foreign Army. The lecturer said that mistakes occur, and he seemed to apologise for mistakes occurring in military affairs. Why, every lady here could tell us that mistakes are frequently occurring even in her admirably managed household, much more easily managed than an army corps. And every lawyer could tell us that mistakes—and ruinous and costly mistakes—are made by judges and Q.C.'s, causing appeals and any amount of waste of money. The greatest master of war in this century has said that he who does not make mistakes never makes war. Everybody else is allowed to make mistakes except a British military officer. The British officers in the Wiltshire manœuvres made mistakes; but, if I had time, Sir, I should be able to prove that German and every other foreign officers, have made equally serious mistakes in peace manœuvres, and in war manœuvres. In point of fact, in the whole history of mankind, from 400 B.C. until now, of all the generals of every race, only seven conducted any considerable series of military manœuvres without having made dreadful mistakes. The most disastrous mistakes of all were made by Napoleon himself, mistakes of conception and mistakes of execution. These seven belonged to very different nationalities. There was the Macedonian, Alexander; the Carthaginian, Hannibal; the Roman, Cæsar; the two Tartars, Ghengis Khan and Tamerlane; an Englishman and an Irishman, Marlborough and Wellington. Now, Sir, another valuable lesson is, suppose we did make mistakes, suppose a private individual is going on making mistakes, is it not a very good thing on the part of his friends to show him his mistakes clearly, and put him into the right way for the future? If that be the case with a private individual, *a fortiori* it is the case of the Army and the Navy. You could not spend money on a private individual better than in correcting his mistakes, and if you are a nation you cannot spend money better than in correcting your mistakes. If you are the military part of the nation the sooner you correct them the better, or you will involve yourselves and your nation in common ruin. Death-bed repentance may be of some value to a private individual—although it is cutting it very fine—but it is utter ruin to a nation. And if we found that we were liable to make serious mistakes during the course of the Wiltshire manœuvres, whether by employing civilian transport or otherwise, then we spent our money very well indeed in finding out those mistakes, and we ought to spend a great deal more money in trying to correct them in the future. As to transport, I agree with the lecturer, that practically it is the “be-all and end-all” of the art of manœuvring. In those broad points, therefore, I agree with Major Marshall-West, but I disagree with him in two small points. I do not know how it is that he manages to subsist without luxury. If so, he is the only celebrated military chief in all history who has ever tried to do anything of the kind. Why should not the officers of the Army get as many luxuries as they can, whether in campaign or out of campaign? Will the gallant lecturer, in his reply, point out to me any great leader of mankind that did not, from the battle of Arbela to the battle of Tel-el-Kebir—I won't mention more modern battles—eat and drink as much as he could get? As the Germans are supposed to be the great leaders in the art of war, I have to tell you that they swallowed everything they possibly could from morning to night during the campaign in France. They smoked millions of cigars per diem. They drank as

much spirits as they could possibly absorb. They were served out with their spirits—not soda-water, which our friend objects to, but orange-bitters in abundance, a very different beverage. Not only so, but in addition to getting "bitters" and an allowance of spirits which would make an Irishman tipsy, they took an enormous quantity of wine, partly bought and partly appropriated. This they did from the beginning to the end of the war, and yet they managed to fight and to win. As for cigars their consumption was prodigious, and they were encouraged to make themselves as comfortable when quartered in French villas or peasants' houses as possible. They acted on this advice. Soldiers should procure abundance of things that they can possibly get, in so far as it does not mitigate against their military efficiency. Of course, excess is quite another thing, but a temperate use of soda-water cannot be *very* bad! Now, coming to the march past, I do hope, Sir, you will induce the lecturer to mitigate his ferocity against that most delightful function. I consider it from the point of view of an income-tax payer—an I. T. payer, as he calls it—well worth the money, and I am not alone in that view. Every spectator shared my view; many paid several pounds a head to see the show. We should have been greatly disappointed if we had not had that march past—a hundred thousand of us, half of us ladies. Now, Sir, inasmuch as the population of these isles consists, at least, half of women, and as their husbands or brothers or sons fight for us, and as the sons of the richer women are our officers, and as the sons of comparatively poorer women are our privates, I say that everything compatible with military efficiency should be done to gratify them and to encourage them to take an interest in the Army; and a march past does that in a very cheap and in a very effective manner. These are the few remarks I have to make, and I have to congratulate the audience on the address, which was the result of thorough experience with regard to the subject-matter, as I know very well, having come across the lecturer when he was with his ever victorious Northern Army, and I was marching from the South. It is not only the result of ripe experience, but it was well conceived, well composed, and a thing very rare amongst modern speakers, ecclesiastical or lay, admirably well, and clearly delivered.

Colonel the Hon. H. G. CRICHTON (Commanding Portsmouth Volunteer Infantry Brigade):—My excuse, Sir, for rising is that the gallant lecturer has been good enough to mention my name in connection with the humble effort of mine to help officers of the branch of the Service that I now belong to, viz., the Volunteers, to gain as much information as they could out of these manœuvres. I beg leave to thank him for his kindly mention of our little efforts, and I am very glad that we have met with his approbation. The Commander-in-Chief was also good enough to express his approval, and to hope that the same thing would take place in future years. I may be permitted perhaps to say that we had rather too few officers of the Auxiliary Forces there, and I hope another year that more officers of that Force will join us in our efforts to get information. The system we went on was to choose some central place so that we could be as near as possible to all the actions as they took place. Of course, when the armies were so far apart, we had some distance to go; but by means of that very useful instrument called the "bike," and also by the use of horses, we managed always to be there or thereabouts. We went on the system of detailing officers to each individual brigade and each division, and at the end of the day we collected the reports, and had a general discussion on the manœuvres of the day. The officers who were there were deeply interested, and I am sure we could not, any of us, help gathering very useful information. If it took place another year I think it might no doubt be improved upon, but I do not think that a moving camp would be of any advantage, because it is more expensive, and you have not so much time when you come home for discussion; therefore I should not recommend the camp moving, but if more officers joined it might be done on a more economical scale than it was this year. It cost rather more, I think, than £1 per

head per diem. So far as the manœuvres go, there is one thing I should like to say, and that is, that, having taken part in the manœuvres of 1872, there was one particular difference that I noticed between those manœuvres and the manœuvres of last year. In the first place, in the matter of transport, we had (at all events in the cavalry) regimental transport. We got a class of rather heavier horses to start with; we trained them in our barracks for weeks before we started, and also had sergeants of artillery down to train our men as drivers. We had most excellent transport. We had an officer in charge; we had our forge carts, and every cart that was required. We were thoroughly independent of everybody. As a rule, we did not know where we were going to encamp each night, and as long as it was tolerably near water where we could take our horses, we did not care. I happened to mention this to a staff officer, and he said, "It is all very well, but in those days the doctor was not so particular about what water the men drank; now the doctors are so very particular you have to fix beforehand the places where your camps are going to be." That, of course, makes it easier also for the transport, and rather spoils the manœuvres. The question of regimental *versus* civilian transport has not been very much discussed, but I must say from what I saw in those 1872 manœuvres, when we were never without our tents for a period of more than an hour or so after we had come in, when our regimental canteens were always well supplied, and the men never had to wait for their soda-water or their beer, that in my humble opinion there is nothing like a regimental system. I am afraid that that opinion is not held by those high in authority, and in any future manœuvres we shall still stick to brigade canteens and divisional transport. But my own mind is perfectly made up after seeing these two manœuvres, the one a success and the other a failure in these particulars, that there is nothing like the regimental transport and the regimental supplies.

Colonel T. S. CAVE (1st Vol. Batt. Hampshire Regiment):—It has been suggested by Major Marshall-West and elsewhere, that at the next autumn manœuvres two divisions should be mobilised on a war strength, and that on the principle that would prevail in the case of emergency, that is to say, in accordance with the mobilisation regulations. Now I know that the difficulty, or rather the fear, that the authorities at the War Office have in calling out the reserves for such a purpose is contained in the word "employers." They, in fact, are afraid to have out the Militia for an extended period or to call up the reserves, because they think the men would lose their employment when they went home. This fear, as we know in the Volunteer Force is by no means groundless. I am a considerable employer myself and I know that it is a real difficulty. Therefore I will make a suggestion at this meeting which I hope will gravitate to our political rulers. An Act came into force last year which made employers liable to compensate workmen for any accidents they might meet with, whether they (the employers) were at all to blame or not. What I would suggest is that in the case of a Reserveman, a Militiaman, or an efficient Volunteer, the Government should take upon itself the responsibility of compensation for accident when the employer is in no way to blame for it. If the Government would introduce a clause to this effect into an amending Act which they will very soon have to pass, making the provisions of the Act more general, and in all cases exempting the employers when the man is one whose employment is divided between themselves and the State, I venture to say that instead of employers looking shyly upon men who are serving in the Militia because they are taken away for a period of 28 or more days, or Volunteers because they want an occasional day or week, or Reserves who may have to do a certain amount of training or be liable to be taken away altogether, these men, on the contrary, will be at a premium in the labour market, and the authorities need not be afraid of mobilising their two divisions because of the employment bugbear. There is one other remark that I should like to make with reference to the manœuvres of last year. The whole difficulties of the transport were not, in my humble estimation, because they were working



on a divisional system rather than a regimental one. The text-books are perfectly sound in laying it down that there must be both regimental transport and divisional transport. The whole difficulty was that the men who were in charge of the teams were untrained. What you want is a trained *personnel*. The training that is required for the transport is by no means so great as the training that is required to make an artilleryman or a cavalryman, or perhaps even an infantryman; and quite sufficient might be done for our civilian transport drivers on a Militia basis. I will not say that the Regular transport should not be increased to some extent, but to a much larger extent there should be raised both Militia and Volunteer Army Service Corps, the former should be called out with civilian wagons and horses for manœuvres of the Regular and Militia forces, and in case of emergency the Volunteer A.S.C. should co-operate with Volunteers at all times. This would, I am convinced, get over the difficulty of the transport, which is one of the greatest that Armies have to contend with. Let us have always the wagons, horses, and the harness, and, if possible, the driver who is accustomed to go with them; but give him at any time a slight military training and the transport service will very soon become efficient.

Major MARSHALL-WEST, in reply, said:—I do not know that I have very much to say with reference to the kind remarks which the several officers have made. I find that the ideas expressed really agree with my own, and I think in some cases it was owing to the fact that I had not expressed myself very clearly that some exception was taken to my remarks. Amongst the very kind and humorous remarks which Dr. Miller Maguire made, he took exception to my views respecting that difficult question of luxuries, but I am bound to say that he has not altered my opinion the least little bit in the world. I would call his attention to what my wording was, for it was somewhat carefully chosen. I said, "If beer or other intoxicants could, *under service conditions*, be procurable, let them now be so, but not otherwise," because the point which he raises, and which he illustrates so aptly by historical example, was a point which really crossed my mind. My whole idea with reference to the manœuvres is to make them as real as possible, and I firmly believe that the more real you can make them, the more interested you will make everyone engaged in them. With reference to the terrible increase in transport, we are all talking about the same thing in reality. When Colonel Sturmy Cave talks about transport, it is the old question cropping up. If you go in for all these luxuries you increase your transport, and how are you going to do it? I am sure that many of you must have seen what I myself saw in connection with these immense transport columns. We find them blocking up our fighting columns and making nonsense of the whole thing. At this late stage I will only repeat very strongly that in one of the suggestions I had ventured to make with regard to transport and supply this unfortunate fact of the supply columns being considered neutral was uppermost in my mind. Again, as regards obtaining luxuries, every soldier who is worth his salt will always do the best he can for himself, and an officer will do the best he can for his men when he is on service; but, at the same time, there must be a certain amount of unreality in this respect when engaged in manœuvres. For one thing we are fighting every day, and that is, generally speaking, not quite like the Real Thing. On service one has to go without things, one cannot get all the things one would like. When you have a long time in camp or a fairly long period in camp, you take good care that you get what you want if there is any way of doing it, and the British officer and British soldier are neither of them very particular what they pay for things under the circumstances. They want something, and they get it if it is possible; but they cannot have it when they are on the move from day to day. I think, therefore, that in consideration of military operations, and the necessity of daily movement, it is very unfortunate that those movements should be unduly hampered in this way. As regards the march past, I myself enjoyed the spectacle thoroughly. I thought it not only a very beautiful sight, but I also thought it was a great credit to our troops. But the one question

I would put to Dr. Maguire is, "Has that march past in September last had the faintest effect on recruiting?" I doubt it, I am sorry to say. And if it has no effect on recruiting, then it is not worth the money spent upon it. As regards Colonel Crichton's remarks about regimental transport, and those of Colonel Sturmy Cave, it struck me that they were rather at cross-purposes. They were both meaning, I think, the same thing. I fancy that Colonel Crichton was referring to regimental transport only, and was not thinking of the second line of supply at the time; whereas Colonel Sturmy Cave was going behind it. It seems to me that the regimental transport for the immediate belongings of the unit should be most certainly carried out regimentally, and if any officer will read the suggestions I made in the close of my paper he will find that this arrangement is involved. I urged that the whole thing should be carried out according to regulation. With reference to supply and transport arrangements, we have the regimental transport carrying a certain amount of supplies, and with the exception of departmental transport for certain units and staffs, the whole thing is done regimentally as far as the immediate supply is concerned. What was in my mind was that it should be worked with that regimental transport, backed up by the supply columns, and backed up further by what is now called the supply park. That is the essence of my suggestion. Whatever the existing regulation may be with regard to transport and supply, let them be carried out in their entirety. If the regulations should change to-morrow, I say, very well, change our manœuvre arrangements to-morrow; but whatever the theory of war is, let it be practised wholly and thoroughly in peace. For by such means will our Forces be more fitted to take the field if war should come.

The CHAIRMAN (Major-General J. B. Sterling):—I am sure I shall have the sympathies of the audience with me when I propose a very hearty vote of thanks to Major Marshall-West for this interesting lecture. It is not only a valuable lecture in itself, but it opens a field of thought which requires very grave consideration. There are certain points which seem to me to be clear. In some measure the transport for the manœuvres failed. It was essential that it should fail, because the men who carried out the transportation were inexperienced in the work. You might as well expect to send water-men to sea in a man-of-war and expect them to fight the guns, as to expect civilian drivers who had been driving, probably, beer carts about London, to move across country in difficult formations, with an enormous mass of troops before and behind them and other wagons blocking the road. The men were inexperienced, and, therefore, the transport failed. But that does not condemn the system. If you have a great body of troops, and you are going to keep them perfectly horsed and perfectly armed with military transport, the expense on the taxpayer will be ruinous, and consequently impossible. Therefore, whether you are in India, in Egypt, or in England, you must employ civilian transport, and the sooner you organise the civilian transport in some form or other, the sooner you will help to make your fighting units formidable. I was delighted at this question of transport coming to the front. It has been a bugbear to me all my soldiering time that it is so little studied. On occasions—Colonel Sturmy Cave will bear me out—when they have been good enough to ask me to arrange games for kriegspiel for the Volunteers, one of the first things I have done is to try and organise a large column of transport such as is necessary in war, and ask the officers, in working out their schemes, to consider this very grave question. I have had all sorts of questions put to me by Regulars and Volunteers. They say, "I do not like these red caterpillars on the march across the table." I have replied, "If you do not face the circumstances in rehearsals, how can you face them when they are more necessary in war?" One of the first things Lord Kitchener had to deal with was the transport over a single line of communication, 1,500 miles long, with undependable steam-engines and undependable steamers to work with. It is to his great glory that he succeeded in working that single line in a way that



other countries have tried to work single railways, and have absolutely and totally failed. We know by experience that single railways in other countries have failed. With the distances to be travelled and the enormous number of men that will be in the field in modern war, it is a growing necessity to find a solution, and one eventual solution will be the development of railway management. I think you will all agree with me that the lecturer has given us a most valuable lecture, and on behalf of the audience I tender him the most sincere thanks for having taken the trouble to prepare it.

## THE SIEGE AND CAPTURE OF BELLE-ISLE, 1761.

(CONCLUDED).

*(From the Diary of an Officer present at the Siege.)*

Continued from page 183, R.U.S.I. JOURNAL, February, 1899.

### PART II.

*14th May.*—We now began our second parallel in a line with the redoubts on the right taken yesterday, and about 500 yards from the Citadel.<sup>1</sup> It is proposed to carry this parallel as far as the first redoubt taken on our left, and to communicate it with our first parallel by the right. Brigadier Desaguliers this morning reconnoitred the ground upon our right near the sea, and fixed upon a spot, 660 yards from the Citadel, for a mortar battery, which was accordingly begun under cover of a rising ground, and the cohorn and royal mortars with a proportion sent down there. Captain Muckle,<sup>2</sup> who commanded the company of miners, proposed to the general the making a mine under the Redans du Havre. There was cannonading this day on both sides, and we lost some men. The guard in the trenches was reduced to 1 field officer, 2 captains, 6 subalterns, 8 sergeants, and 200 men. The guard in the village of Port Halan, on the right of the trenches, was reduced to 1 sergeant and 12 men. Nothing belonging to any inhabitant of the island, either in the town or country, was to be seized or made the property of anyone whatever in the Army without the authority of the commander-in-chief. All officers commanding at the several posts were to see this order strictly obeyed, and to send all plunderers and their plunder to the magazine guard at the village of Mewzel in the front of the camp.

*15th May.*—There was little firing on either side this morning. We continued to work on our second parallel, and to make communication from it to the redoubts taken on the 13th, which were now made strong posts of. We likewise continued to work on our new mortar battery upon the right, and in the rear of the windmills, to which place we carried the rest of the mortars with their proportion of stores. The Navy began this day to land ten 32-pounder iron guns at Port Yock for the new battery proposed to be erected in the second parallel. The

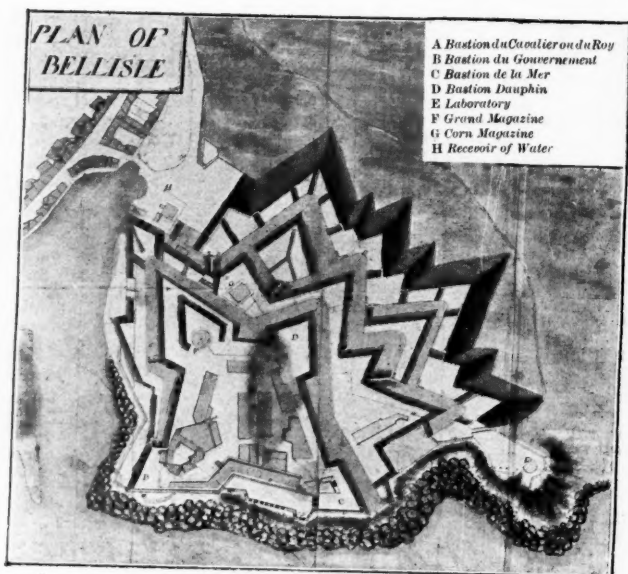
<sup>1</sup> The enemy's lines were successfully assaulted on the 13th May, after which their defence was confined to the Citadel, which was perfectly isolated, and it was evident that the place must surrender as soon as the provisions were consumed. Still the French held out, and kept up a heavy fire on the besiegers.—R. H.

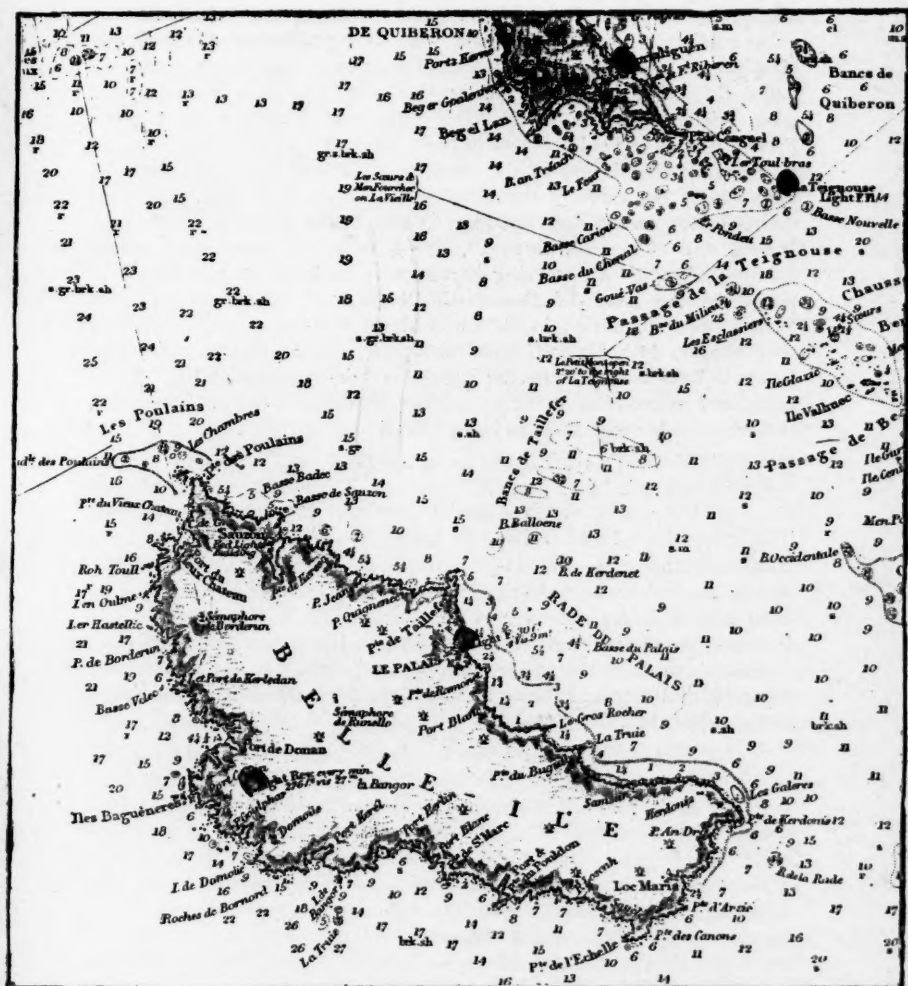
<sup>2</sup> Captain-Lieutenant David Muckle, R.A.

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deputy quarter-master-general took an account of the corn and wine in the town of Palais, where he found a great quantity of oats, barley, and wheat; upon which he gave strict orders to be fixed up by the chief magistrate for preventing its being parted with by the inhabitants to either soldiers or any other persons. We took possession of the Grand Hospital, and likewise of the casemated one in the main street, where we found Colonel Thomas<sup>1</sup> and Major MacLean,<sup>2</sup> who were wounded and taken prisoners on the 8th of April. There were also a great many French officers and soldiers left in these hospitals. The enemy annoyed us very little all this day in the carrying on of our works, although we were within 500 yards of the Citadel. We opened at night our new mortar battery on the right upon the Citadel, at the distance of 660 yards. It consisted of two 13, three 10, five 8 inch, ten royal, and twenty cohorn mortars. All working parties were ordered for the future to parade at the head of Beauclerk's Regiment.<sup>3</sup> Great irregularities having been committed in Palais by the drunkenness of the soldiers sent there on duty, Major-General Hodgson sent the provost there with orders to hang the first man he caught committing any kind of irregularity, and ordered him to arrest the first soldier he found drunk on duty, and when he became sober to hang him without any trial.

*16th May.*—This day about noon, the chief magistrate and some of the principal inhabitants of the town of Palais came out to Major-General Hodgson to settle the British coin and the exchange of money. They were blinded all the time they stayed in the trenches. The Navy continued landing the iron 32-pounders. The enemy had a large magazine of fascines without the town, near the sea, and on our left, but they have now withdrawn them into the Citadel. Major-General Hodgson informed the troops in general orders that he had received His Majesty's commands to thank the officers and soldiers for their good behaviour and the great zeal they had shown for His Majesty's service during the course of the expedition.

*17th May.*—This morning we bombarded the Citadel very smartly, which the enemy returned with equal warmth, and threw a great many very new shells into our new mortar battery on the right, by which we had several men wounded. Colonel Burgoyne<sup>4</sup> was sent again to the Continent. We began to erect a battery in the second parallel to the right of S. Sebastian's Church, and made barricades in the town of Palais as a cover against the enemy's musketry. We fire now from our new mortar battery on the right, which consists of 41 mortars, and from the gun battery in the first parallel, where we have six 32-pounders, which begin to make some impression on the enemy's works. But we have no other batteries at present in use. Burgoyne's Regiment<sup>5</sup> was ordered to send

<sup>1</sup> Lieut.-Colonel Lewis Thomas, 9th Foot, Q.-M.-General.

<sup>2</sup> Major F. MacLean, Stuart's Independent Battalion.

<sup>3</sup> 19th Foot.

<sup>4</sup> Lieut.-Colonel John Burgoyne, 16th Light Dragoons.

<sup>5</sup> 16th Light Dragoons.



officers' parties to patrol from Sauzon to Vieux Châteaux on the one side, and from Sauzon within cannon shot of the Citadel on the other side, from Vieux Châteaux to the bay in the rear of Bangor, where there was a post of foot, and from Port Kerel, the bay in the rear of Bangor, to Port de Andro and Loc Maria.

*18th May.*—We continued carrying on the trenches, and erected a battery for sixteen guns on the second parallel. The enemy's fire to-day was chiefly directed to the new mortar battery, and to the left of the trenches where we were employed in throwing up cover for the security of our guards.

*19th May.*—This morning a very smart cannonading and bombardment on both sides. The enemy's fire was chiefly directed against the new gun battery, which was thereby much defaced, and the mortar battery on the right, where we are raising a small work for two 24-pounders. Our new batteries erecting by the artillery officers on the left go on very briskly, notwithstanding the constant fire from the Citadel on that part. Brigadier Desaguliers gave orders that the mortars should not be fired any more in volleys unless the Citadel should happen to be on fire, but that the fire from the mortars should be so proportioned as to be constantly kept up day and night; for it was supposed, as in effect we heard afterwards did happen, that the enemy upon the first discharge from the mortars would retire under cover until the whole volley was fired. This evening some motions of the enemy made us apprehensive of a sally, we therefore kept very alert and prepared to receive him.

*20th May.*—This morning continued a heavy rain and much wind. This and the want of planks to lay platforms retarded much the batteries raising by the artillery officers on our left. In consequence of a letter from Commodore Keppel to Brigadier Desaguliers, intimating to him that the fleet would not be able to supply all the demands that would be probably made for carrying on the service, the brigadier immediately took the opportunity of applying to England for a new proportion of stores and ammunition to carry on the siege. There was so great a want of battering plank that the chief engineer was obliged to take up the platforms of the gun battery in the first parallel. Michael Kirkman, gent., is appointed 2nd lieutenant in the Royal North British Fusiliers in room of 2nd Lieutenant Stone, killed.

*21st May.*—Some firing on both sides. The enemy opened five guns this day in the curtain between Bastion du Gouvernement and Bastion du Cavalier ou du Roy. The guns for the new battery in the second parallel were brought down to the trenches this night, and the village of Port Halan was pitched upon as a general magazine for all the batteries in the second parallel, which village the enemy bombarded the whole day. General Hodgson pressed it again in orders to the officers commanding working parties to exert themselves in the execution of their duty, as it was a business very essential towards the carrying on the further success of His Majesty's arms.

*22nd May.*—Our several batteries were considerably advanced, notwithstanding the very bad weather which still continued. The enemy bombarded us the whole day, which we returned from our mortar battery on the right. Brigadier Desaguliers applied to the Navy for a further supply of twelve 24-pounders and their stores. We, this night, got all the guns upon the new battery in the second parallel, but the work was not yet entirely completed. It was ordered that whenever any soldiers came into the trenches, who were not on duty, the officer to whose post they came was to lay hold of them and keep them at work twelve hours. Both sides continued to bombard during the night.

*23rd May.*—This morning came on again a very hard rain. We opened our new battery in the second parallel, which consisted of ten 32 and six 24-pounders, with which we fired very smartly on the enemy's defences in the Bastion du Gouvernement, the Bastion du Cavalier ou du Roy, and the curtain between them at a distance of 460 yards. This warm and sudden firing drove the enemy from the curtain, and dismounted some of their guns. Before the opening of the above battery, the enemy fired upon us with five guns from the curtain, four from the Bastion du Gouvernement, and five from the Cavalier of the Bastion du Roy, which was the reason why Brigadier Desaguliers proposed waiting till the batteries on the left (which were now considerably advanced) were completed, in order that our fire might be much superior as possible to that of the enemy. Lieutenant Mackenzie, of the artillery, and several men were this day wounded on the new battery.

*24th May.*—We continued a very smart fire from our sixteen-gun battery, and threw a great many shells into the Citadel. The enemy fired from the curtain with four guns on our new battery, by which the embrasures were much damaged. Our batteries on the left were nearly completed. We this day moved all our royal and cohorn mortars and formed three small batteries with them, one in the town, 230 yards distance from the Bastion du Gouvernement; the two others to the left of the second parallel near the garden wall, about 380 yards distance from the Citadel.

*25th May.*<sup>1</sup>—We opened to-day our newly constructed batteries on the left. The first was a battery of 8-inch howitzers, near the left French redoubt, which enfiladed the Bastion du Cavalier ou du Roy and curtain, at the distance of 460 yards from the envelope. The second was a battery of six 12-pounders to the left of that, which was intended to dismount the enemy's guns on their out-works between Bastion du Cavalier ou du Roy and Bastion Dauphin, at the distance of 620 yards from the Bastion Dauphin. These two enfiladed batteries did great execution upon the enemy. We began this day to batter in breach from our sixteen-gun battery the Redans du Havre or counter-guard between Bastion du Gouvernement and Bastion du Cavalier ou du Roy, firing the whole day all the guns in the same instant of time in volleys against

<sup>1</sup> The siege works were carried nearer and nearer, and an incessant fire from mortars and artillery was kept up from the 13th of May to this day, when the enemy's fire began to slacken.—R. H.

that part of the wall where it was proposed to make the breach. General Hodgson sent an order this afternoon for case shot to be fired all night at the enemy's embrasures from the sixteen-gun battery. All these batteries had such an effect upon the enemy that they fired but very little all this day. A deserter of the enemy's reported that the garrison only waited for a breach to capitulate, and that they did not fire upon the town because they did not choose to distress the inhabitants. The enemy have still possession of the ground on our left close to the sea, and keep a party in the mill near our furthest redoubt on the left. Captain Williams<sup>1</sup> of the artillery was ordered to take the command of all the mortar batteries. The commander-in-chief ordered Brigadier Desaguliers to apply to him for whatever men were wanted for the service of the artillery. Returns were ordered to be sent by the commanding officers of regiments to the adjutant-general as soon as possible of the names and the numbers of men that could be employed as marksmen. This evening we occupied the new batteries erected on the left of the garden wall.

One gill of spirit was ordered to every man on the working parties. General Hodgson fixed upon a spot of ground to the left of the second parallel and close to the vineyard wall to erect a battery for the sea mortars, which was accordingly begun this day. We were pretty quiet on both sides all night.

*26th May.*—Our small mortar batteries annoyed the enemy very much in all their works. A very large fire occurred in the Citadel which was occasioned by one of our shells falling among a great quantity of plank; it burnt violently a great part of the night and we plied the fire well with shells and some carcasses. The fleet still continued to form a chain before the harbour, and their cutters and long boats kept a very good guard around the island. We began to raise a new battery, advanced before our second parallel and to the left of S. Sebastian's Church. We likewise discontinued this day to batter in breach. The enemy opened to-day five guns from the curtain on the sixteen-gun battery. The commanding officer in Palais was ordered to be attentive that the duty of that post be done with the greatest exactness. The chaplains of regiments were ordered to attend the Grand Hospital once every day in order to pray by the sick if required, and bury the dead, and to take this duty week about. A hundred marksmen from each brigade were ordered to be always part of the 500 men for the town of Palais. They were to be drawn up on the left of that detachment to be disposed of in whatever manner the commanding officer in Palais thought proper. These men were to be kept for that duty only and were to take with them seventy-two rounds for each man. The regiments were desired to pick the best of their men for this service.

*27th May.*—At break of day the enemy began to cannonade and throw shells, which we returned from our batteries, and they fired likewise musketry from their covered way and parapets, which the marksmen in

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<sup>1</sup> Captain-Lieutenant Griffith Williams, R.A.

the town who were properly disposed of in the houses, returned very smartly upon them. It was this day determined that the breach should be made in the Redans du Havre ou du Roy. We, therefore, began again to fire volleys on that part with the sixteen-gun battery. The enemy fired this day balls of wood, which shows either want of ammunition or that their guns are disabled. Brigadier Desaguliers applied to the general for 400 men to do duty with the artillery, but they could not be spared. The artillery duty was now very severe. The marines were ordered to give their proportion of marksmen for the town of Palais. This night our miners began to sink a shaft in the cellar of one of the houses, in order to pass under the ditch to the revetment of the Redans du Havre, as the ditch was in that part wet at high water.

*28th May.*—We continued to batter in the breach, and the enemy bombarded us warmly. Our new battery to the left of S. Sebastian's Church was considerably advanced this day. The 36th Regiment and the remaining nine companies of the 85th arrived this day from England under convoy of four ships of the line and one frigate. They immediately disembarked and marched into camp. The 3rd Buffs had sailed before them and was hourly expected in. The weather was extremely fine and dry all this day.

*29th May.*—We fired very smartly from all our batteries. The enemy cannonaded very little but threw a great many shells. They opened three guns upon us from the Cavalier of the Bastion du Roy. The breach in the Redans du Havre is pretty well advanced, but the wall appears likely to take a great deal more battering. We this day opened a battery of two 13 and two 10-inch sea mortars to the left of the second parallel and close to the vineyard wall at the distance of 520 yards from the Bastion du Cavalier, whose fire was directed to different parts of the Citadel but chiefly against the enemy's mortar battery. Till the arrival of the other regiments from England the 36th Regiment and the nine companies (Craufurd's) of the 85th that arrived yesterday were ordered to do duty with the three brigades.

Christopher Bath, gent., was appointed to act as commissary to the Army.

*30th May.*—We this morning opened our new battery of ten 24-pounders which was advanced before the second parallel to the left of S. Sebastian's Church and just above the town, with seven guns of which we began to batter in the breach that face the Bastion du Gouvernement, which is on our left and next to the Bastion du Cavalier ou du Roy, and fired with the other three at the Cavalier of the Bastion du Roy (at the distance of 380 yards). We likewise fired very smartly from all our other batteries; four guns which battered in breach at the sixteen-gun battery were taken off to fire at that part of the curtain which joins the flank of the Bastion du Gouvernement. The 3rd Regiment or Buffs arrived this day from England and brought with them two more officers of artillery with 20 men and four field pieces. There arrived at the same time 6 engineers. The miners sunk another shaft more to the left, nearer to the drawbridge.

*31st May.*—We still continued a very heavy and warm fire from all our batteries and had pretty nearly completed a new battery on the right and in the town of Palais. The enemy fired from the Cavalier with three guns, we likewise made several lines of communication to our works on the left, which we for some time past had much occasion for, but indeed there was till now little time to carry on such works, however necessary they might be. These lines being well filled with musketry, kept the enemy very close and under cover of their works. They threw a great many small shells out of their large mortars, but they did us little mischief. We drew some more heavy guns into the trenches for our new battery.

Till the other regiments arrived, the Buffs were ordered to do duty with the three brigades, sending 152 to each.

*1st June.*—The miners made but little progress in their works, on account of the tides which came in upon them. They were employed in opening communications through all the houses for a secure passage to the ditch. As the breach in the Redans du Havre appeared now pretty considerable, barricades were made in all the streets and houses, and lines of musketry properly disposed of for to cover the passage of the miners over the ditch. This day the 75th Regiment<sup>1</sup> arrived from England and marched into camp. Two 24-pounders were drawn down as soon as it was dark from the artillery batteries on the left, and a new battery on the right and in the town of Palais, and were with great difficulty—as the roads were extremely bad—got up to the battery by 4 the next morning, which the enemy by this time had unmasked. We were very quiet all night.

*2nd June.*—We continued this day to batter in breach the Redans du Havre and the Bastion du Gouvernement. The enemy fired with three guns from the right face of the Cavalier of the Bastion du Roy, and threw several shells. They hoisted this day several colours, which appeared to be the signals to the Continent. This morning we opened a four-gun battery in the town of Palais with only two 24-pounders, with which we battered in breach the Bastion du Gouvernement at the distance of 230 yards. The enemy fired very smartly both shot and shells on this battery, killed one of the gunners, and wounded Brigadier Desaguliers, who being very near the shell was much hurt in the explosion. In the afternoon they fired extremely smart with small arms from all their works, by which we had several officers wounded and some men killed. Brigadier Howe<sup>2</sup> and Captain Muckell<sup>3</sup> were both wounded in the streets of Palais, the former by a musket shot in the leg, and the latter by one in the arm. Lieutenant Williams<sup>4</sup> of the artillery was likewise

<sup>1</sup> The 75th Foot here alluded to was raised in 1756 as the 2nd Battalion of the 37th Foot. It was numbered the 75th in 1758, served at the siege of Belle-Isle in 1761, at the defence of Portugal in 1762, and was disbanded at the Peace in 1763.—R. H.

<sup>2</sup> Brigadier-General Hon. Wm. Howe, afterwards fifth Viscount Howe.

<sup>3</sup> Captain-Lieutenant David Muckle, R.A.

<sup>4</sup> ? Captain-Lieutenant Griffith Williams, R.A.



wounded on the gun battery. Boscawen's Regiment<sup>1</sup> was ordered for the present to furnish 190 men to each brigade with a proportion of officers and N.C. officers. Two more 24-pounders were carried this evening as soon as it was dark to the four-gun battery in the town of Palais. Craufurd's Regiment<sup>2</sup> was divided into 2 battalions, which were now brigaded in the following manner:—

1st Brigade	-	-	{	Bufs (3rd)		
			{	Boscawen's (75th)		
			{	Loudoun's (30th)		
2nd Brigade	-	-	{	Whitmore's (9th)		
			{	Colvill's (69th)		
			{	Rufane's (76th)		
			{	Marines	-	139
3rd Brigade	-	-	{	Beauclerk's (19th)		
			{	Morgan's (90th)		
			{	Manners' (36th)		
			{	Marines	-	141
4th Brigade	-	-	{	Panmure's (21st)		
			{	Craufurd's 1st (85th)		
			{	Erskine's (67th)		
			{	Marines	-	70

The 2nd Battalion of Craufurd's was taken off the line duty and ordered to encamp with the artillery under the orders of Brigadier Desaguliers. They consisted of 440 men rank and file, effective and fit for duty.

The commander-in-chief made the following promotions:—

Ensign Norman McLeod to be lieutenant in Colvill's Regiment, in the room of Lieutenant Hawker, dead<sup>3</sup>; and volunteer William Scott, gent., to be ensign in the room of McLeod.

The enemy hoisted two lights all this night, but fired very little. It was reported by some of the French officers, after the place was taken, that a boat from the Continent got this night into the Citadel and gave the governor an account that they would receive a reinforcement in four days, which occasioned his holding out longer, as they said he had before intended to have capitulated the third.

*3rd June.*—This morning both sides fired as usual, but about 3 in the afternoon the enemy beat a parley, which gave rise to a notion that they were going to capitulate, but it was to take up a wounded man who had fallen from the wall into the ditch, which was then full of water, and as the firing ceased for some time on both sides, they took that opportunity to look at the breach in the Redans du Havre. The firing soon began on both sides, and continued the rest of the day. The commander-in-chief gave orders this day for as brisk a fire as possible to be kept up from the four-gun battery, which battered in breach with four 24-pounders the Bastion du Gouvernement, firing, however, again now and then at the Cavalier of the Bastion du Roy. The "Nazareth"

<sup>1</sup> 75th Foot, Colonel Hon. John Boscawen.

<sup>2</sup> 85th.

<sup>3</sup> Lieutenant Charles Hawker.



and "Mary," transports with ordnance stores, arrived this afternoon from England.

Captain Bird,<sup>1</sup> of Beauclerk's Regiment, was appointed to act as major of brigade to the 1st Brigade. 1 captain, 3 subalterns, and 100 men were added to the detachment for the town of Palais, in order to be employed as marksmen. A return from each regiment was ordered to be sent to the adjutant-general by 9 o'clock the next morning of the number of men they have that can be employed as marksmen. We were very quiet all this night, and the enemy fired rockets as signals to the Continent.

*4th June.*—We continued to fire on both sides as usual. This being His Majesty's birthday, the fleet at noon fired three rounds, and a similar number were fired at the enemy from all our batteries. The breach in the Redans du Havre becoming very considerable, the enemy began to throw up an entrenchment behind it. This night it was resolved to pass the miners over the ditch and fix them to the wall of the Redans du Havre. Accordingly about 10 o'clock, a signal being given, all the mortar batteries began to fire on the enemy, soon after which a sergeant of miners with 6 miners, with a sergeant and 12 men volunteers from the Army, and 2 engineers, Messrs. Muller and Strahan, went over the ditch and mounted by the breach to the top of the Redans, where they entered into one of the galleries of the work, and proceeded to barricade the door, and set the miner to work; but the sergeant and 12 men who were to cover them, seeing, as they said, a large body of the enemy advancing upon them, precipitately retreated, and drew the miners down along with them, who were obliged to leave behind them their dark lanterns and pole-picks and two barrels of powder belonging to the enemy, which happened at that time to be in the gallery. In this precipitated retreat three of the miners were run over and wounded by the bayonets of our own people. The whole party passed the ditch again, and the enemy fired very smartly from their works, throwing down hand grenades and stones, but luckily none of our people were hurt by them. All this time we kept up a constant and very warm fire from our lines of musketry, disposed of in the houses and along the barricades and streets. About two hours after this unsuccessful attempt, the miners repassed the ditch near the angle of the Redans du Havre that covers the Bastion du Cavalier ou du Roy, where the sergeant, without any guard, fixed the miner about 1 o'clock in the morning in the right face of the Redans, and from the angle they first laid six sleepers against the wall, under cover of which the miners began to work, throwing the rubbish they took out of the wall into two casks which served them at the same time for a traverse. As soon as the day broke and the tide came in, they all withdrew but two miners, who continued to work and enter the wall. Major-General Rufane, as general of the day, commanded the troops in town, which kept up a very great fire the whole time on the Citadel, in order to protect and cover the miners. The enemy made but little or no opposition to the passage of the miners, as they were not able to face

<sup>1</sup> Captain-Lieutenant John Bird, 19th Foot.

so strong a fire of musketry. 1 captain, 2 subalterns, 6 sergeants, and 60 men, 12 of whom were to have arms, were ordered to parade the next morning at 5 o'clock at the head of Beauclerk's Regiment,<sup>1</sup> and to receive their orders from the quarter-master-general. The general parade was ordered to be at the head of Beauclerk's.

*5th June.*—This day firing as usual on both sides, but very little at night. We fired at the breach in the Redans from the sixteen-gun battery with three 8-inch Howitzers, which were taken from the artillery battery on the left. The engineers began to erect a new battery for one 8-inch Howitzer and a 24-pounder on a spot of ground advanced about 230 yards before the sea mortar battery, and directly over the Hospital the fire of which was directed against. To the right of which battery they also raised a smaller one for two 12-pounders against.

The engineers began to raise a battery for 24-pounders on a spot of ground advanced about 70 yards before the ten-gun battery and to the left of it. They also began to make a traverse across the harbour in a line with the salient angle of the Redans in order to cover the miners in passage to the wall, in which work they met with little interruption from the enemy. About 12 o'clock this night the miners had advanced about 12 feet in the wall through masonry, but the soil now alters to a soft stone intermixed with earth and opens with more ease.

The brigade that went on duty was ordered to furnish all the marksmen they had, to compose part of the 200 that were employed in that duty from the post of Palais. The adjutant was to draw up these men separately and to send a report in writing to the major of brigade of the day of the number they send to the general parade. A general court-martial was ordered to assemble the 8th inst. to try Sergeant Loyd and another man of Rufane's Regiment for the murder of Commissary Cheape, and a man of Craufurd's for mutiny. Lieut.-Colonel Burgoyne was president of this court-martial. James Strahan, gentleman, was appointed ensign in Lieut.-Colonel Morgan's Regiment<sup>2</sup> in the room of Bradford, killed.<sup>3</sup> A medium 12-pounder was taken this evening from the park and carried down to the new battery, advanced before the sea mortar battery and directly over the Hospital. An 8-inch Howitzer was afterwards taken from the batteries on the left and carried to the same place.

*6th June.*—We continued to fire very smartly from all our batteries. The enemy fired with two guns from the Cavalier and dismounted two 24-pounders on the ten-gun battery. Till noon we could never entirely silence the enemy's guns on the Cavalier, which were generally very troublesome to us, as they frequently run them out of the embrasures again after we had thought them dismounted, and consequently ceased firing at their defences. But Captain Tovey<sup>4</sup> of the Artillery, who commanded the batteries this day, ordered four guns on the sixteen and three on the ten batteries to be always kept in reserve against their defences; so

<sup>1</sup> 19th Foot.

<sup>2</sup> 90th L. I.

<sup>3</sup> Ensign William Bradford.

<sup>4</sup> Captain Abraham Tovey, R.A.

as to be always ready to fire immediately on the enemy, whenever they attempted to run out their guns again.

It was proposed this night to pass the miners over the ditch in another place and to fix them to the right of the breach in the Redans du Havre. They accordingly went over between 12 and 1 where the tide was out, and the harbour consequently dried. But the enemy were well prepared for them behind and on each side of the breach and threw over as soon as they perceived them hand grenades, royal and cohorn shells, which obliged the miners to repass the ditch again. The lines of musketry in the houses and along the barricades in the town kept up a constant and very warm fire on the enemy all this time, which kept them in check and close under cover of their work. All the different mortar batteries fired very smartly at the same time, and by the shrieks and groans heard from the enemy must have done great execution. The miners having passed the ditch again and the enemy remaining entirely quiet, Brigadier Carleton, who, as general of the day commanded in town, ordered the musketry to cease firing. The miners continued to work under the Redans du Havre that covers the Bastion du Cavalier, and have now proceeded so far that they suppose themselves already under the main ditch, their intentions being to carry the mine under the Bastion du Cavalier, in the gorge of which Bastion was the enemy's grand powder magazine. The brass medium 12-pounders were at all proper opportunities carried down to the trenches, in order to replace the heavier guns, which might be carried to the new battery now erecting nearer to the Citadel. A Frenchman disguised like a peasant, and who had rode about the trenches and redoubts on the right the greatest part of the day, came in the afternoon into the village of Port Halan, where was our grand magazine of ammunition and stores for supplying all the batteries in the second parallel, and examining too curiously the different houses where the ammunition lay, he was suspected with much reason to be no peasant but rather a spy, and was therefore taken up and carried to the commander-in-chief at Bangor. It having been represented this morning by Brigadier Desaguliers to the commander-in-chief that the quantity of shot now landed would permit us to increase a little our fire, he ordered thirty rounds to be daily fired from each gun, excepting on the four-gun battery, which as it battered in breach the Bastion du Gouvernement the officer of artillery commanding there was ordered to fire as many rounds from each gun as he could safely do. The mortars ceased firing, as their powder was ordered to be reserved for the guns that battered in breach. The taking of cows from the country people by any person whatsoever was this day forbidden in general orders. Divine service was ordered to be performed every Sunday morning at 10 o'clock at the head of each regiment. An hospital was opened at Sauzon, where the surgeons of regiments were to send those that fell sick after this day. Those now sick were to be continued in their infirmaries.

We fired from all the batteries very smartly upon the enemy this morning. The breach in the shoulder of the Bastion du Gouvernement increased considerably, and another breach was begun near the salient angle of the same Bastion and in the same face. We perceived the

enemy at break of day this morning repairing the embrasures in the Cavalier of the Bastion du Roy, soon after which they for some time fired four guns very smartly; but about 8 o'clock in the morning they, to our great surprise, hung out a white flag upon the breach and beat the Chamadi, upon which Brigadier Carleton, who was the general officer of the day, gave orders for all the batteries to cease firing, after which Mons. La Gamique, lieutenant-colonel, and second in command, came down upon the Citadel with another officer who had the rank of major. After the usual compliments, he was asked by Brigadier Carleton if he had any written order from the governor to treat upon terms of a capitulation, to which he replied not, but was to make the best terms he could. Lieutenant-General Hodgson was immediately acquainted with this and came to the town about 9 o'clock. He then directly sent for Commodore Keppel, and as soon as he arrived they began to draw up the articles of capitulation. About 3 in the afternoon the French officers went back to the Citadel and returned at 6 in the evening, where they were again met by General Hodgson and Commodore Keppel, and the articles of capitulations signed.<sup>1</sup> Upon which the Port de l'Avancée, or principal gate into the Citadel, was taken possession of by a captain and 50 grenadiers of Beauclerk's Regiment (19th Foot).<sup>2</sup>

*Return of killed and wounded from 8th April to the surrender of the Citadel of Palais on the 7th June.*

Regiments.	Killed.				Wounded.			
	Officers.	Sergts.	Drumrs.	Rank and File.	Officers.	Sergts.	Drumrs.	Rank and File.
Burgoyne's (16th Lt. Dns.)	1	...	...	1	...	...	...	1
Artillery ...	1	1	...	8	4	...	...	2
Buffs (3rd) ...	...	...	...	1	...	...	...	3
Whitmore's (9th) ...	...	2	...	22	2	1	1	30
Beauclerk's (19th) ...	1	...	1	54	4	1	2	91
Panmure's (21st) ...	1	2	...	17	...	1	...	35
Loudon's (30th) ...	...	...	...	22	1	1	...	40
Manners' (36th) ...	...	...	...	2	...	...	...	2
Erskine's (67th) ...	2	1	...	26	...	1	1	30
Colvill's (69th), 1st Bn. ...	...	...	...	11	4	5	...	28
Rufane's (76th), 1st Bn. ...	1	1	...	16	...	2	...	8
" " 2nd Bn. ...	1	...	...	9	...	1	1	21
Craufurd's (85th) ...	1	...	...	18	...	2	...	21
Morgan's (90th) ...	1	...	...	8	...	1	...	20
Stuart's (97th) ...	...	...	...	8	1	...	...	20
Grey's (98th) ...	1	...	...	4	...	...	...	12
Marines ...	...	2	1	34	8	...	1	46
Total ...	11	9	2	261	24	16	6	410

<sup>1</sup> For two months the French governor had held out against great odds, notwithstanding that he knew he could obtain no support. Having, therefore, done all that honour demanded, he wisely determined to prevent unnecessary bloodshed by capitulation.—R. H.

<sup>2</sup> A few days after the signing of the articles of capitulation, and in accordance with the terms, the garrison was carried to the coast of France. Belle-Isle remained in the hand of the British until the Peace of Paris in 1763.—R. H.

*Officers' Names.*

Regiments.	Killed.	Wounded.
Staff ...	—	Brigadier-Generals J. Desaguliers, G. Carleton, and Hon. Wm. Howe.
Artillery...	Capt. J. Muckle.	Lieuts. Kindersley, Williams, and McKinzie.
Burgoyne's ...	{ Capt.-Lt. Sir W. Peere Williams, Bart.	—
Whitmore's ...	—	Major L. Thomas, Lieut. E. Chute.
Beauclerk's ...	Lieut. Douglas Stuart.	Major C. Lumsden, Capt. J. Paterson, Lieuts. J. Majoribanks and R. Hutchinson.
Panmure's ...	Lieut. Stone.	—
Loudon's ...	—	Lieut. H. N. Jevers.
Erskine's ...	{ Capt. T. Osborn, Lieut. Gardiner.	Major J. Nesbit, Lieut. R. Faulkner.
Colvill's ...	—	Lieuts. J. Bromhead and Young.
Rufane's ...	{ Lieuts. T. Taylor and Whittle.	—
Craufurd's ...	Lieut. N. Merson.	—
Morgan's ...	Ensign W. Bradford.	—
Stuart's ...	—	Major F. MacLean.
Grey's ...	Major Parcell.	—
Marines ...	—	Lt.-Col. J. McKensie, Capts. J. Bell, J. Murray, W. Carruthers; Lieuts. J. Hadden, S. Davis, J. Conway.

*A Return of Powder, Shells, and Shots expended on the Siege of Belle-Isle, the 7th of April to the 7th of June following.*

	Powder for Barrels	Shells.	Shot.	Carcasses.
Mortars of 13 inches ...	—	646	—	—
Mortars of 10 inches ...	—	1,407	—	—
Mortars of 8 inches ...	—	2,792	—	—
Mortars of 5½ inches ...	—	2,877	—	—
Mortars of 4½ inches ...	—	4,210	—	—
Cannon of 32-pounders ...	—	—	5,060	—
Cannon of 24-pounders ...	—	—	7,843	—
Cannon of 12-pounders ...	—	—	2,210	—
Cannon of 6-pounders ...	—	—	409	—
Carcasses of 13 inches ...	—	—	—	5
Carcasses of 10 inches ...	—	—	—	17
Carcasses of 8 inches ...	—	—	—	3
Carcasses of 5½ inches ...	—	—	—	—
Carcasses of 4½ inches ...	—	—	—	—
Total Expense ...	1,507	11,932	15,522	25

N.B.—The above account is as near the number of round shot as could possibly be got, as the ships from which the 32 and 24-pound shot were received did not all make a return to the commissary.



## THE SIERRA LEONE PROTECTORATE EXPEDITION, 1898-1899.

*By One who was there.*

TO the British public, as a whole, the coast of West Africa is a sealed book; and as little has been published regarding the late Sierra Leone Protectorate expedition, I propose to give a short account of the events which led up to that expedition, as well as of the expedition itself.

As is well known, a rising broke out throughout the whole of the Protectorate, commencing with Bai Bureh's people in the Kassi country, in February, 1898. Questions were asked in Parliament, and a Special Commissioner was sent out, in the person of Sir David Patrick Chalmers, to collect evidence and report on the causes which gave rise to discontent. That report has not yet been published, and the matter may therefore be considered as still *sub judice*. To the ordinary observer, however, the general rising was due neither to the imposition of the small hut tax, nor to the control of domestic slavery, nor to the high-handed bearing of the Frontier Police Force, nor, on the other hand, to the alleged instigation by merchants and traders to revolt. The main cause appears to lie in the fact that the tribes in the Hinterland had never been conquered. In the history of nations the power of the sword must first be felt. It is a *sine quâ non* that to govern peacefully you must conquer first. The rising was bound to come sooner or later, the reasons given for its inception are immaterial, and other and equally powerful reasons could always have been manufactured. The whole country, therefore, was ripe for revolt, anxious to try conclusions with the white race, who had suddenly assumed the government. And it was natural, too, that success should be anticipated, for in most parts of the Protectorate the white man had rarely been seen. Their numbers were unknown, the only certain thing was that to the white man the climate was deadly. Why, therefore, should the thousands sit under the control of the few?

In February, 1898, Bai Bureh refused to pay the hut tax, and in opposing the Government met with considerable success. The first success was like flame to gunpowder. On all sides—north, south, east, and west—the tribes simultaneously revolted. In the Sherbogo and Bandajuma districts a most determined opposition was met and conquered by Lieut.-Colonel Cunningham, D.S.O.; in the Ronietta district, the stronghold of Taiama was taken and burnt by Colonel Woodgate, C.B.; in the Karene district, Bai Bureh and his forces were so harried by Lieut.-Colonel Marshall that they had no place to rest; and in the Panguma district, the Frontier Police, under the able leadership of

Captains Fairtlough, Blakeney, and Ferguson, after weeks of continuous fighting day and night, eventually captured the great paramount chief Naiagwa, and restored order within the boundaries. It remained only for Lieut.-Colonel Cunningham, with the West African Regiment, to capture the chief Bai Bureh himself. This was successfully effected on 11th November. With Captain Goodwyn, West African Regiment, rests the honour of the actual capture of this redoubtable Chief and leader of men.

At this point the rising in the Protectorate may be said to become an incident of the past. The various tribes had given in, and were anxious for peace. But it was determined to consolidate the victory by a peaceful demonstration of the power of the white man, and the Sierra Leone Protectorate expedition was organised to march through the country, to show that it was not merely what the natives call a "one-day palaver," *i.e.*, come one day, defeat them, go away again and never come back on account of the deadly climate. With this short retrospect of the events which led up to the latest of Britain's little wars, I now turn to the Protectorate expedition proper.

The Sierra Leone Protectorate is divided into five districts: the Karene, Falaba, Panguma, Bandajuma, and Ronietta districts. At the headquarters of each there is a detachment of the Sierra Leone Frontier Police, while the government of the district lies in the hands of the district commissioner, who both maintains law and order, and collects and disburses revenue under the order of the governor. In each district there are three courts:—

- a. The court of native chiefs.
- b. The court of native chiefs with the district commissioner.
- c. The district commissioner's court.

The first deals with cases between native and native of a minor character; the second cases between native and native of a more serious character, the chiefs making their recommendations, but the award lying with the district commissioner; the third deals with all the more serious cases of murder, felony, etc., sentences by this court requiring confirmation by the governor.

It will be seen from this how large must be the influence of a district commissioner in his own district, how the chain enables him to deal through the various chiefs with the people themselves, and to this good influence is mainly due the success which attended the marching columns. The people were permitted to pay their hut tax in rice, a bushel of 56 lbs. being considered as the equivalent of the hut tax of 5s. for the year. In this manner rice was collected and stored by the district commissioner at various points along the routes proposed for the various columns. The columns therefore lived largely on the supplies in the country they traversed. It was brought home to the natives in the country that the hut tax was a very small matter and easily paid, the first idea of trade became more self-evident with the presence of a ready market in their midst. On all sides the soldiers were welcomed when it was understood that they

came as friends and not enemies, that in future the small wars and raids between tribes would be superseded by a general peace.

It was intended that the columns should commence their march through the country in December. But in November, reports were received of a rising amongst the tribes called the Sofas, Golas, and Berehs, living on the Eastern Liberian Frontier of our Protectorate. In consequence of this the Panguma column left Freetown on the 21st and 25th November. The party leaving on the 21st were pushed on in the direction of Panguma to quell any rising. That of the 25th consisted mainly of reserve supplies for the formation of a depôt at Panguma. The formation of this depôt requires a word of explanation. According to the recognised rules of modern warfare, an advancing army maintains a regular line of communication, along which supplies, stores, etc., are pushed up to the front, and sick, wounded, etc., are brought down. But the advance of columns in three different directions would have necessitated three separate lines of communication with a large number of troops employed on posts along those lines, entailing enormous expense. Again, to render each column independent of such lines of communication, to make them self-supporting for the whole journey, outward and homeward, would have entailed long and cumbersome columns of carriers interfering with mobility and efficiency. The principle employed was a combination of the two. Thus columns started from Freetown with sufficient supplies to support them on their outward journey, and a main reserve supply depôt was pushed on to the more or less central position of Panguma, from which columns could draw supplies for their return, etc.

The advanced portion of the Panguma column having pushed on to Panguma soon ascertained that the reports of the rising of the Sofas, Golas, and Berehs were much exaggerated and need not be considered. But the Gissi tribe were reported as giving trouble. This tribe inhabits the country on our borders, living partly on British and partly on Liberian territory, and for many years past has been a source of annoyance, raiding alternately British and Liberian possessions with a delightful sense of immunity from attack obtained by the border line between the territories of the two countries.

However, on the arrival of the troops at Panguma it became known that the Frontier Police Post at Kainkordu, which is well within the British Boundary, was seriously threatened. In consequence of this, a party consisting of 4 officers and about 120 other ranks, under the command of Captain Crofton-Atkins, West African Regiment, and accompanied by the district commissioner, at once proceeded to the relief of Kainkordu, where they dispersed the enemy. From thence they marched to Jama, again defeating the enemy on the 14th December. Then returning to Kainkordu, they marched south of Kongonani, and crossed the Meli River at Gara, on the 18th December.

This crossing was strongly opposed, the enemy lining the opposite bank, being well armed and offering a determined resistance. Captain Atkins moved by a ford on to an island, at the upper end of which the

river was narrow though unfordable. A carrier, by name John Joe, volunteered to swim across with a rope. This, though the current was very rapid, he successfully accomplished, making the rope fast to a tree on the opposite bank. It was a plucky action, performed by an unarmed man and under fire. A section of the West African Regiment, headed by Sergeant Bokari Seissie, then hauled themselves across along the rope, and having effected a landing, turned the flank of the enemy, who at once retired. The column then advanced, and though daily opposed, were uniformly successful in their operations. Having come to the end of the limited stock of supplies which they were able to carry with them, they made their way back to Panguma, where they arrived on the 24th December, having had 3 men killed and 12 wounded.

The second portion of the Panguma column had now arrived at Panguma, under Captain Goodwyn.

On the 27th December a report was received that in spite of the recent defeat and dispersal of the Gissis, Kainkordu was again seriously threatened. On the same day Captain Goodwyn started with a column of about 4 officers and 70 other ranks and marched to the relief of Kainkordu. On the morning of the 1st January, when near Waima, heavy firing was heard in the direction of Kainkordu. Captain Goodwyn at once hurried to their aid, and arrived just in time to disperse the large number of Gissis which had surrounded the place. The commander of the post had been dangerously wounded the previous day, and but for the timely arrival of this party the post must have fallen. The distance from Waima to Kainkordu is 8 miles. This was covered by Captain Goodwyn and his party in one-and-a-half hours! When it is considered that all ranks were fully equipped, that the line of advance was a rough and hilly West African bush path with a blazing West African sun overhead, one cannot help being struck with the dash and go which prompted the advance and actually succeeded in its performance. It is a record of marching which has never hitherto been approached, and is never likely to be surpassed. And it was the means of saving Kainkordu and re-establishing the British prestige. On the 3rd January Major Moore arrived from Panguma, and, joining Captain Goodwyn's party, assumed command. The party passed along the road taken by the Gissis and at mid-day Pamandu was reached. This was found to be strongly defended, the enemy opening a steady fire from a well-built stockade formed across the pathway. The only thing to do was to rush the obstacle, and this was successfully accomplished, Captain Goodwyn being the first over. On the 5th January the column returned to Kainkordu and on the 12th January to Panguma, having been continuously and strenuously opposed. Their losses were 2 killed and 10 wounded.

Whilst all this was going on, the Falaba and Bandajuma columns had left Freetown. The former, under the command of Lieut.-Colonel Marshall, 1st West India Regiment, moved in two portions—the first column, which Colonel Marshall accompanied, proceeding *via* Samaya, Bafodeya, Falaba, Koinadugu, Kru, and Waima. The second column, under Captain Carleton, West African Regiment, taking a more southern

route *via* Bumban and Kru to Waima. These columns left Port Lokko on the 12th and 16th December respectively, and were timed to arrive at Waima on the 20th January. The Bandajuma columns, under the command of Major Blunt, R.A., having a shorter distance before them, did not start until the 29th December. They also proceeded by separate routes and were timed to concentrate at Yandahu on the 20th January. In the meantime, reports having reached Freetown that if any opposition was met with it would probably be nearer the border than Panguma, instructions were sent to each of the columns to effect a general concentration of the whole force at Kaurelahun on the 26th January, and an advanced depôt was pushed forward from Panguma in order to feed the troops on arrival at the general point of concentration. On the 5th January, 1899, the headquarter column left Freetown. Colonel Woodgate, commanding the troops in Sierra Leone, was, through sickness, unable to accompany it; and the command of the whole thus fell to Lieut.-Colonel Cunningham, D.S.O. The headquarter column consisted merely of a small escort of about 50 men, with Major Kennedy as brigade major and senior staff officer; Major Wilson, senior medical officer; and Major Smart, R.A., as intelligence officer. On arrival at Gorahun on the 16th January, two marches from Panguma, the headquarter column met Captains Goodwyn and Atkins coming down country invalided. They had been incessantly at work since April, 1898, throughout the whole rainy season, continually marching and fighting. Saturated with malaria and a shadow of their former selves, the medical authorities had to insist on their return from the front. They both managed to reach the coast, but with Captain Goodwyn especially it was a very close thing. The great advantage of meeting these officers was that it enabled Colonel Cunningham to hear at first hand what was going on in front. He immediately made up his mind what to do, and sent information to Colonel Marshall at Waima of the course of events, at the same time directing him (instead of following the direct route to Kaurelahun) to proceed to Kainkordu, then due east to the Meli River, and following the right bank of that river to disperse any hostile gatherings of the enemy he might meet with. This message, despatched from Gorahun at 5 a.m. on the 17th January, was delivered by hand at Waima, about 100 miles off, by the evening of the 20th, and Colonel Marshall commenced to carry out these instructions, leaving Waima for Kainkordu on the morning of the 21st. His advance was strongly opposed, every village was defended, the column was repeatedly attacked when on the march, and worried by a succession of night attacks. His losses amounted to 1 killed and 11 wounded, but he inflicted so much loss on the enemy that during the last few days his advance was practically unopposed, and the column marched into Kaurelahun on the 30th January. The Panguma and headquarter columns, marching from Panguma, reached Kaurelahun on the 24th January.

On that day a small reconnaissance under command of Lieutenant Ewing, West African Regiment, elicited the fact that the enemy were in considerable force across the Moa River. Accordingly, on the 25th,



Colonel Cunningham personally conducted a reconnaissance in force across that river, with the troops of the Panguma and headquarter columns. The crossing of the river was unopposed, but the enemy were soon met with at Wando and offered a very spirited resistance. When the force turned to come home, the natural presumption being that they were retreating defeated, the enemy at once closed in and attacked with great pluck and determination. There is no doubt that they lost heavily, but they killed 1 and wounded 5 on our side. In one particular attack it seemed as if no one could stand more than a few minutes without being hit. There were but 3 officers present at that part of the column. All 3 were hit, Lieutenant Loftus being dangerously wounded. Luckily however the other 2, Major Smart, R.A., and Captain Ferguson, district commissioner of the Panguma district, received but slight wounds, and were therefore able to keep their legs and to continue to direct operations until the enemy were beaten off. The River Moa was finally reached, and the crossing effected under the cover of Maxim fire. The force returned to Kaurelahun at 10.30 p.m., having had 17 hours of hard marching and fighting. Great credit can certainly be given to the wounded West African soldier. In each case when a man was knocked over, his company officer merely told him "You stop there till the doctor comes," with implicit faith in the word of their officer they moved to one side to leave the road clear and patiently waited the arrival of the doctor. I take this opportunity of mentioning that in all cases where I have given the numbers of wounded, these are only those which were of a more serious nature and such as came into the doctors' hands. The West African soldier, and the carrier also, does not make a fuss over a trifle and is not inclined to report himself as wounded if he thinks the wound will heal of itself. The term "wounded" may therefore be said to mean incapacitated from duty by wounds, and does not, for instance, include such cases as those of Major Smart and Captain Ferguson above quoted.

The following day, 26th January, the Bandujma column under Major Blunt, which had arrived at Kaurelahun on the 24th, was despatched with a small convoy of supplies to meet the Falaba column at Yibema. They proceeded across the Moa and then in a north-westerly direction but met with slight opposition, 1 officer, Lieutenant Jones, West African Regiment, only being wounded. Three times were they attacked on one night, but generally speaking the attacks were half-hearted. Having failed to meet Colonel Marshall, they returned to Kaurelahun on the 29th January.

The headquarter and Panguma columns remained at Kaurelahun on the 26th and 27th January, the time being taken up in inducing the Chief of that place, Fa Bundo, to provide guides to the Gissi capital town of Kenema. Fa Bundo's chief idea, however, was to produce the whole of his own available fighting force; and as these took two days to collect, the troops enjoyed an enforced though welcome rest on the 27th January.

On the morning of the 28th, Colonel Cunningham led his force, about 200 strong, to the attack of the rebel capital, which it was hoped

would be defended by every available man. The commencement of the work was the same as that of the 25th, and it soon became apparent how severe a defeat had been inflicted on that day. The troops advanced unopposed, slept at Wando without interruption, and on the 29th advanced. The town of Yomandu, second in importance only to Kenema, was first reached. Opposition was met with, but of a very slight character, and the enemy fled, setting fire to their own town rather than let us capture it. The column then pushed on towards Kenema, but alas! the same thing happened again, except that on this occasion the troops barely got within a mile of the town before it was seen to be in flames. There was nothing to be done but to return to Kaurelahun, which was done by a double march on the 30th; the return journey being quite unopposed. Thus the whole of the troops were back in Kaurelahun on the night of the 30th, and the Gissi disturbance had been quelled between the 20th and 30th January. There is no doubt that this result was chiefly due to Colonel Cunningham's policy of operating by three different columns in different directions simultaneously. Throughout the previous Kassi campaign there could be but one column, the enemy knew where to expect it, and either selected their own ground for fighting, or, if they thought they could not attack with advantage, they did not show themselves. With the Gissis, however, matters were easier. They wanted to attack, and they did so with spirit until they saw how completely they were out-manœuvred and mastered. With troops all over the country they never knew where to expect attack, whether in front or rear. Naturally, too, the number of columns and strength of troops would be much exaggerated by rumour. Their country had been overrun, their towns and villages burnt, and they themselves had even had to burn their own stores of rice, their cattle had all vanished into the bush — there was nothing for it but to cave in and sue for peace.

On the 3rd February the Panguma and Falaba columns started on their homeward journeys. The Falaba column took an entirely new route through the Gissi country, but encountered little opposition, and on arrival at Waima were met by representatives of the Gissi Chiefs Kafura and Bomba, who had come to sue for peace on any terms. On the 4th February, the headquarter column and Bandajuma column started homeward.

There was no delay, no retention of troops in an unhealthy spot. The fighting has been done, and well done, in as short a time as possible, and incalculable benefit to the health of all was attained by the well-timed concentration and by the prompt dispersal of the force as soon as its object had been attained.

The various columns reached Freetown on different days between the 21st February and 9th March, detachments of the West African Regiment having been left to garrison the posts of Karene, Falaba, Panguma, and Bandajuma. The presence of these detachments naturally exercised considerable influence in the maintenance of law and order, consolidating the effects of the whole series of operations.

The Falaba column marched 800 miles in 84 days, the Panguma column 1,116 miles, the Bandajuma column 713, making a total of 2,629 miles. For the first of these the country was very poor, of a mountainous character, with the towns small, infrequent and difficult of approach. The roads were in almost all cases straight up and down hill, and not following the lines of the valleys; the towns built on the tops of hills indicated that they were so placed for defensive purposes in inter-tribal warfare. On all sides the inhabitants welcomed the troops with open arms and were gratified and pleased to hear that from henceforth there would be no further fighting or disturbance from the boundaries. For the other two columns the actual marching was easier, but supplies were more scarce. Cattle could rarely be obtained, and fresh vegetables rarer.

As regards the fighting, from the point of view of pitched battles, with large numbers engaged, and proportionate numbers of killed and wounded, no comparison can be made. Bush fighting is so entirely different, but in its own line far more trying to the nerves. The silent march through the almost deathlike stillness of the West African forest; the knowledge that at all times you are shadowed by an enemy, who can choose his own time and place to attack, and whom you cannot see and cannot attack; the narrow bush paths disclosing nothing either on the right hand or the left; the longing to substitute the constant menace of the unseen for the exhilaration and excitement of the seen,—these are a far more continual strain on the nerves and harder to bear than the most determined attack where the enemy can be seen and known.

With the most thoroughly disciplined and carefully trained troops this continual strain must always be felt. With fresh and untried troops, such as the West African Regiment, it is naturally heavier. The first man for this regiment was enlisted on the 14th April, 1898—by a curious coincidence he was also the first man killed. Since that time the regiment has been almost continually employed in small detachments in the bush, with little or no chance of the training or discipline which make obedience and a soldier's behaviour in the presence of the enemy a second nature. With all these disadvantages there is no doubt that the West African Regiment did well. To Colonel Cunningham and the officers of that regiment unstinted praise is due that in so short a time they should have formed, out of somewhat unpromising material, a corps which performed a task heavier, I imagine, than any hitherto exacted from recruits. Perhaps the secret was unconsciously given by the headman of a certain village, who, being asked to describe Captain Goodwyn's and Captain Atkins' fights, merely said:—"Same like any other fight; white man stand up, black man lie down."

The effect of the whole is that a permanent peace has been ensured, and that too even on the borders at all times notoriously difficult to pacify. And what has been the cost?

Valuable lives have been lost, especially during the rising, and the health of many has been seriously affected. On the other hand, we have

now a Protectorate where trade is likely to increase, and to thousands we have given peace and content.

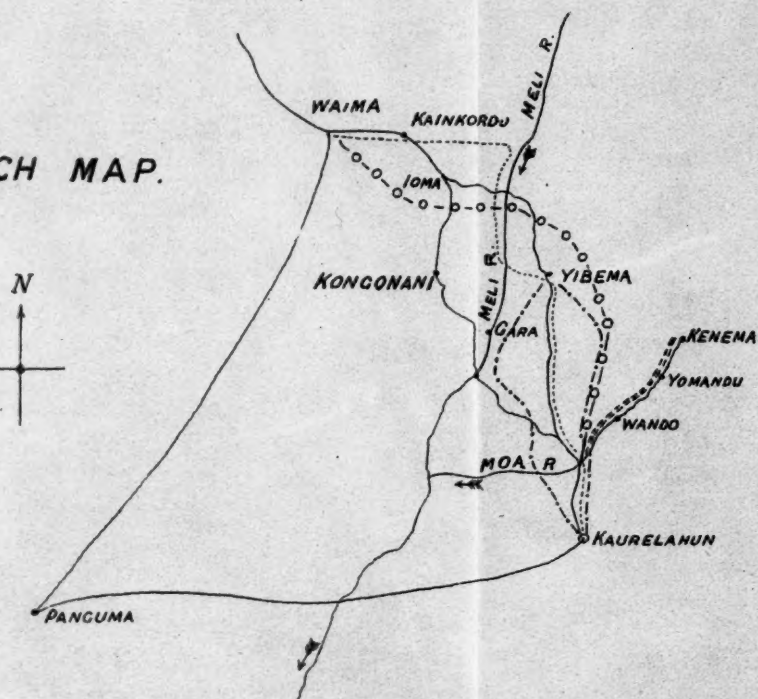
We have shown the tribes that under British leadership even men of their own nationality are irresistible. Again, from the more material view of the taxpayer, the total cost of the whole year's operations amounts to little more than £60,000 – about a quarter of the three months' Ashanti Campaign of 1895—and this amount will be saved in the course of a very few years by Mr. Chamberlain's project of substituting West African troops for the more expensive West Indian troops.

As I have said at the commencement, the rising was bound to come. It is well that when it did come it found such a strong and capable ruler as Sir Frederick Cardew at the head of affairs. "The White Man's Burden" has been heavy, but time will show that, in vulgar phrase, even financially, it will pay.





# SKETCH MAP.

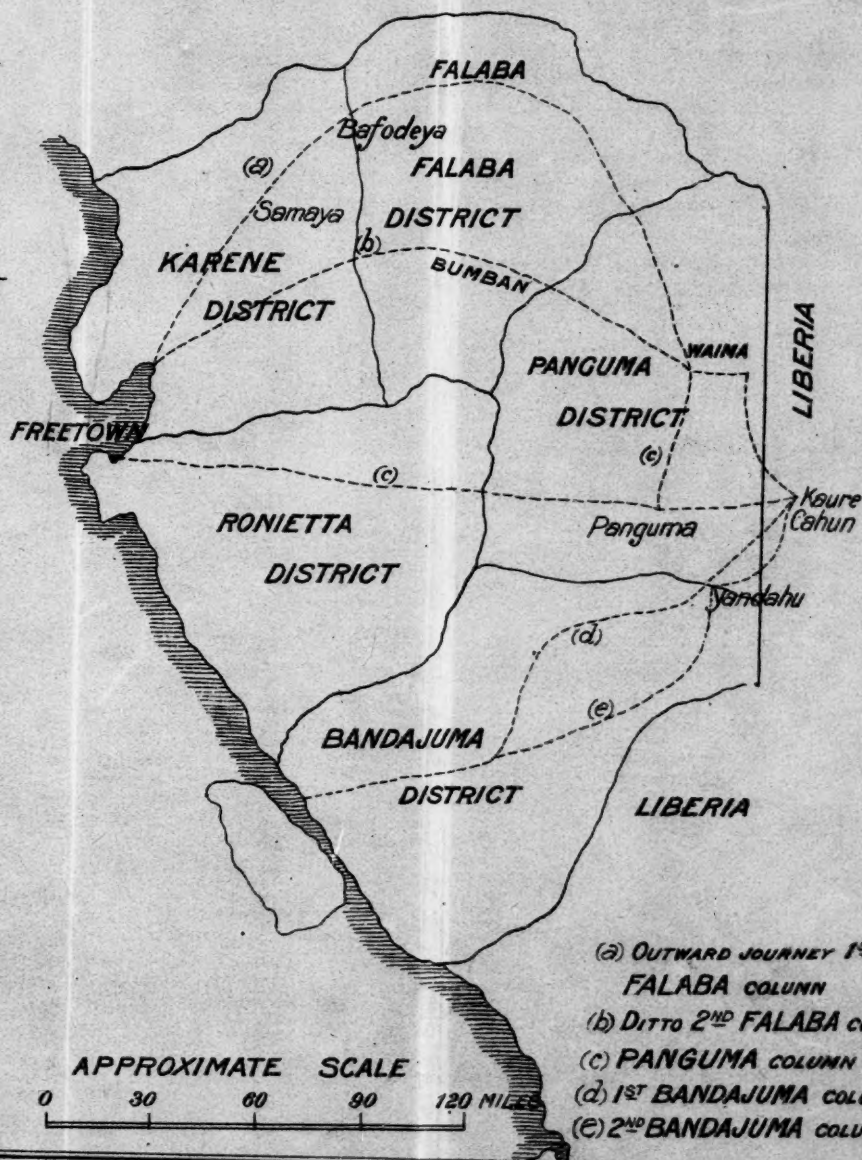


- = FALABA COLUMN
- = BANDAJUMA COLUMN
- ===== = H.P. Q. & PANGUMA COLUMN
- o-o-o-o- = FALABA COLUMN, Return journey.

APPROXIMATE SCALE.  
10 5 0 10 20 30 Miles.

FRENCH TERRITORY

SKETCH MAP.





## THE TRANS-BAIKAL.

*Translated from the "Voïennyi Sbórník" by H. HAVELOCK.*

THE principal means of communication in the Trans-Baikal that need be taken into consideration are as follows:—

1. The branch of the Siberian main line from the lake to the Strietenski Station.
2. The roads leading to the River Arguna.
3. For the transit of Russian troops moving on Urga, the roads running from the Baikal to Troitskosavsk.
4. The means of communication by water running in the three above-named directions.

We will now proceed to examine these in detail.

*Land Routes.*—It may be said generally of these, as of those throughout Siberia, that they are quite in a primitive state, and affect only a small part of the country, and are accessible to a very small portion of its population. The length of the roads available for the transmission of the post is some 1,300 miles, or 1 to every 227 square miles of country. The inadequacy of the means of communication and the great distances to be covered materially affect all branches of the community, clogging all administrative undertakings, and the commercial progress of the country. Consequently in case of war with China the use of the resources of the region would be to a large extent paralysed owing to this cause, and even in peace-time when there is a dearth of grain in one part, it has to be procured from outside, even when there is a superfluity in other parts of the region.

The construction of roads in the direction where they are most needed, from the Baikal to the River Arguna, encounters a serious obstacle in the shape of the Yablonov Range, which forms a lofty and continuous wall all across the province from the N.E. to the S.W. Only one road for wheeled carriages crosses it, and that at an altitude of 4,600 feet, and there are only three or four mountain paths which have been made passable for pack animals between that point and the Chinese frontier, a distance of some 265 miles. Here again we often find that for want of roads the population on one side starves, while 100 miles off that on the other side has to sell its grain at ridiculously low prices.

Most of the by-roads which admit of wheeled traffic are in the S.E. and S.W. parts of the province, *i.e.*, where the Russian population mainly lies. The natives for the most part make their journeys on horse-back. All that part which lies to the north of the high road, having a

very sparse population and producing but little, is almost totally without roads properly so-called, as the only post road runs from the village of Ostrojny on the right bank of the Selenga to Barguzin.

A noticeable feature is the absence of sledge communication in winter, as the snow only falls near the lake, and that not at all points or in sufficient quantity. The contrasts are sharp in that district: between Verkhneudinsk and Kiakhta there is scarcely any occasion for sledges, and wheels can be used throughout the winter, while to the north of Barguzin such a quantity of snow falls that even in November the mails have to be sent from there to the Baths at Turkino by pack animals. On the high road travelling by sledge is for the most part possible only for a tenth part of the way—from the Baikal to the station at Ilijinskaia; over the remainder the travelling is exceedingly difficult either by sledge or wheel, as great drifts of snow gather in sheltered places.

In spring and autumn, and sometimes in summer, difficulties of another kind are encountered, as almost all the roads run along the valleys of rivers, and when the water rises they are consequently flooded, the fords vanish, and crossing is hindered even where there are permanent means of doing so. However, the ground is for the most part stony and there are few ruts, or frozen or sun-dried heaps of dirt. The actual roadway therefore remains in fair condition, but the thawing or freezing of the streams militates against traffic.

Let us now proceed to consider matters from the strategic point of view.

1. *The Siberian High Road.*—This runs through the province for a distance of 650 miles, reckoning from the Mysovaia Station on the eastern shore of the Baikal to the Strietenski Station, where the Amur becomes navigable. This portion of the main road is connected with the Irkutsk by what is called the Baikal Loop, but communication is kept up by the lake, by steamer in summer, in winter over the ice. Its continuation towards Vladivostok is a track which winds round the rocky banks of the Shilka and the Amur, so that all real communication with that place is by means of those two rivers. During two or three months of every year, when they are thawing or freezing, this is wholly cut off, and the telegraph becomes the only link between the Amur country and Russia.

As in war-time all troops and *matériel* would be sent to the Trans-Baikal almost exclusively by steamers on the lake, the selection of a good landing-place on the eastern shore becomes a momentous question. Up to October, 1890, the station of Boyarskaia was so used, but at present that of Mysovaia has taken its place. It is more convenient, as being more sheltered from the N.E. and S.W. winds which prevail on the lake, and sometimes prevent access to Boyarskaia for three or four days.

A wooden landing-stage has been erected at Mysovaia, which is not subject to these atmospheric conditions, and the Siberian Railway will come down on to it, when completed. It is also favourably situated with regard to the Kiakhta trade route, which is the shortest way from Irkutsk to Troitskosavsk and Urga, and the township which lies some half-mile



from the landing-stage is well-suited for the billeting of troops on the march, almost all the houses having small tenements with truckle-beds in them, in which are housed the carters who carry tea from Kiakhta to Irkutsk.

The most important places on the main road are Verkhneudinsk, 110 miles from Mysovaia, Chita, the administrative capital of the district, 298 miles from the former, Nerchinsk, 198 miles from the preceding, and the station of Strietenski, the place at which the steamers of the Amur line end their trip, 65 miles from that again. At Mysovaia the main road connects with the Kiakhta trade route, and not far from Verkhneudinsk with the post road from the same. Near Biankin the road branches off to the station of Shelopugino, and further on to Hailar and Tsipikar. The chief obstacles encountered are the River Selenga, a mile from Verkhneudinsk, the Shilka opposite the station of Strietenski, the Nercha,  $2\frac{1}{2}$  miles from Nerchinsk, and the Kurta near Novo-Kurbinskoe. These are all torrents, and the Nercha can at ordinary times be forded even near its mouth on horseback, but with heavy rain or a thaw they all flood, especially the Nercha.

The population is for the most part grouped at a considerable distance to the south of the high road, and such townships as lie along it are the outcome of the "plantations" of the fifties, which were intended to secure uninterrupted postal communication, by the forming of *étapes* and posting stations. Life on this trade route has in course of time left its mark on the settlers, and the farmers and Cossacks there are remarkable for enterprise and intelligence, and are on a far higher level than their indigenous neighbours, the Buriats and Tunguses, both in mental qualities and material prosperity. In summer time no difficulty is experienced in quartering bodies of 500 men or so for a couple of days anywhere along the high road, except between Verkhneudinsk and Oninoborskoe, or between Donmo-Eravinskaia and the township of Beklemishev. Water, fuel, and fodder are not to be found at all points, and the latter is most plentiful where the first is the most so, viz., between Mirsanovskoe and Delionskoe.

2. *Roads leading to the Arguna.*—The sole means of communication between the Baikal and the Arguna is the high road, which however turns off at a distance of some 160 miles from that river. From that point there is a post track for a distance of 85 miles, and beyond that a by-road running through the Alexandrovski Works.

3. *Roads leading from the Baikal to Troitskosavsk.*—The creation of a shorter route from Irkutsk to Troitskosavsk has long occupied the minds of our merchants at Kiakhta, as every year from 800,000 to 1,000,000 poods of tea, valued at from 14,000,000 to 20,000,000 roubles, are carried between those two points. The solution is rendered more difficult by the fact that parallel with the eastern shore of Lake Baikal, from the border of the Irkutsk Government to the River Selenga run the lofty ranges of the Hamar Daban and the Hangar Utskoe, which are almost impassable and bar all the shortest routes from the Baikal to

Troitskosavsk, so that the post road from Mysovaia to the latter has to make a detour by Verkhneudinsk to avoid the northern spurs of the Hamar Daban, forming an arc 250 miles in length, whereas as the crow flies the distance is only about 100 miles. To obviate this the Kiakhta merchants have formed what is on the face of it a shorter route—the Udunga Trade Route—but this is so narrow in parts and so subject to heavy snow storms and in spring to “verglas,” and moreover runs through such wild country, that there are no provisions or fodder to be procured, and in places not even water. The “esaul” Putilov surveyed the country in 1881 and 1889, and the result of his observations was that the best route was by the valleys of the Manturikha (locally “Mandryka”) and Udunga, where there are few material obstacles, and the two ranges of hills much more easily passable than the Udunga Rangè, and there are only two rivers which need bridging. For the present, troops and munitions of war can be sent forward to the Mongolian frontier *via* Verkhneudinsk.

*Water Ways.*—The chief defect in these in the Baikal region is the extreme rapidity with which the depth of most of the streams changes. The dryness of the climate makes water evaporate readily, and what was a few days before a great river may to-day or to-morrow be easily fordable. Moreover, the mountainous nature of the country makes the rivers abound in rapids, against which almost every year rafts and steamers are dashed to pieces. For five or six months in the year also the rivers are frozen. Nevertheless, many of the rivers would be of the greatest importance in war-time.

The two main steamship routes are those of the Amur system and the Baikal. There is also a service on the Selenga, not at stated intervals, but when a sufficient quantity of merchandise, mainly tea from Kiakhta, is collected for conveyance. Since 1894 the two Amur companies have been under contracts with the Government, and have built or purchased several new steamers in consequence. The three places at which vessels touch are the Strietenski Station, the Shilka Works, and the settlement of Gorbítsa on the Shilka. The former is the limit of navigation on the Amur, though this might with great difficulty be opened up as far as Nerchinsk. The silting up of the river bed at various points since 1879 is the obstacle, otherwise vessels could go as far as Chita. Even now there are a fair number of steamers, with a draught not exceeding 3 feet, which could go as far as Nerchinsk.

As for the Baikal, it will still be of great importance even after the opening of the loop line round the lake, and with the completion of the Siberian Railway traffic will be greatly augmented, as a saving is effected by this mode of transit of some 135 miles. The lake is navigable from the end of April to the middle, or sometimes the end, of December. Under normal conditions the passage takes seven hours, but in bad weather the steamers have to lie off for three or four days. For all practical purposes troops can only be conveyed by steamer.

There remains to be considered the route by the River Ingoda and Shilka. In peace-time recruits are sent on rafts by this route, which takes from twenty to twenty-five days. If they march from Chita to

Strietenski and proceed by stream to their destination, it takes twenty-six days. Rafts can travel from the end of April till late in October, while for steamers there is insufficient water during at least half of the period when the rivers are free from ice. In 1894, the experiment was tried of taking recruits by raft as far as Khabarovsk, but this proved to be dangerous below Blagovieshchensk, and should only be resorted to in extreme necessity.

Each raft consists of some forty pine trunks, bound together in twenties. A quadrangular hole (*proukha*) is made in each trunk near the thicker end, and through this is fastened a stick (*bulavka*), with a "head" at one end. The twenty beams are then lowered on to the *bulavka*, and a 6-inch pin is driven into the aperture made in the *bulavka* at the twentieth beam. When the bottoms are thus secured, the tops are fastened together by passing across the whole an ell and a half from the end a strong pole, and then over every two trunks they put hoops made of birch withes. These are made of such a size as to go easily over the ends of two trunks, and then on to the pole. When the hoops are shipped, they put a lever into one of them, the pole giving the necessary resistance. To secure the lever, they lift it and describe a semi-circle, which makes it drop into the space between two trunks, and the point of resistance is thus shifted to the lower part of the pole. The lever is then forced under the pole, and the spare end cut off. The same process is repeated with the remaining beams. The two small rafts are joined by passing over the *bulavka* of each three birch hoops large enough to admit of the hoops of one meeting those of the other when the thick ends of the beams composing them are pressed together. Birch stakes 2 fathoms long are driven into the space of the first hoops. The rafts thus made can be very easily taken to pieces by merely withdrawing these stakes.

For the accommodation of the passengers the raft is covered with boards, giving a quadrangular space of 72 square ells, including that necessary for the working of the sweeps. At the edges a space is left to keep the men and goods from falling into the water. There are sheds for provisions, two to every 100 men. The rank and file have only the bare boards provided for them, but many rig up awnings improvised out of their tents. From 25 to 35 men are carried on a raft, and where there are deck-houses some 12 to 15 men are needed to do the work required. For cooking purposes, camp kettles are carried, one to every 12 men, for which there is a special fire-place, a frame of four logs filled in with earth.

From 18 to 20 rafts are placed under the command of an officer, forming a detachment (*komanda*), the officer travelling on the last, and three such *komandas* form an *échelon* under the orders of the senior officer. Each *komanda* has a surgeon, or at any rate an assistant, with a field medicine chest. The *komanda* is divided into sections according to the number of non-commissioned officers. On each raft the recruits select their own chief (*starosta*), preference being given to the most educated and experienced; he serves out the provisions and is generally responsible for the party. When they halt for the night he calls

the men's names over, and receives the supplies for the next day, apportioning them among the camp-kettles, receives instructions as to the dangerous places to be passed next day, makes a report to the section commander, and reports any cases of illness to the surgeon. There are one or two pilots to each *komanda*, and these generally guide the leading raft, the others following its course, though this often cannot be done from ignorance of the handling of a raft, of the channel, or other reasons, so that they often sail out over a distance of 7 miles or so. These pilots are Cossacks or natives who can show that they have conducted Government or private rafts with success. The duty on board them mainly consists in working the sweeps, the *starosta* seeing to this; sometimes all the men are at work at the same time, and even the wives. At night, men are told off to keep guard. Rations are issued to the men with biscuit instead of bread, and salt meat in place of fresh. The only difficulty experienced is when a raft runs aground, the provision raft being ahead, for it is impossible to send anything up stream. It may be remarked that accidents are exceedingly rare, none having occurred for 12 years past. The rate of progression where each has a pilot is 80, or if advantage be taken of moonlight nights as much as 130 miles in 24 hours. Certain precautionary measures have to be taken to preserve the health of the men, as camping out on cold nights in early spring, the heavy rains, fogs, and wading in water of a temperature of 41°, together with the close way in which they are packed on the rafts, are all prejudicial to health.

In case of war, the River Arguna will also play an important part as a means of communication by raft, as it runs along the Chinese frontier and forms the only direct route from the Amur to the frontier settlement of Staro Tsurukhaiuevskoe. Both banks on the upper waters of the river are almost destitute of wood, so that rafts cannot be constructed above the falls of Kucherban. It is only used in peace-time by the riparian inhabitants, and that on a very small scale. Some barges are used, but the channel shifts greatly.

*Climate.*—The climate of the Trans-Baikal differs materially from that of other parts of Siberia within the same degree of latitude, partly owing to the fact that the plateau lies 3,000 feet above sea level, and also that it lies at such a distance from the ocean. The absence of humidity, of sea breezes to temper the heat, and the near proximity of the great Central Asian Desert of Gobi, give it a purely continental character as exemplified by a hot dry summer and a hard winter with little snow. It is also remarkable for the marked excess of sunny days over clouded and foggy ones. The exceptional clearness of the atmosphere and the almost constant prevalence of a clear blue sky and bright sunshine, both in winter and summer, make people often forget the many defects of the harsh and inhospitable climate of Siberia. It of course varies to some extent according to the natural features, and there is a marked difference between the western and eastern portions of the region. That of the western, the part near the lake, between it and the Yablonov Range, is to some extent more temperate owing to the exhalations from the lake,

while the excessive moisture in the air causes a comparatively greater density of atmosphere. From the north this part of the region gives free access to the north winds, which blow charged with moisture from the frozen ocean, while the dry south winds are kept off by the Kentei, Malkhat, and other ranges. It is in part for the same reason that such large tracts of woodland are to be found there; in summer the woods condense the watery vapour and in winter give the fallen snow a certain cohesion which prevents the winds from drifting it. The eastern part, that beyond the Yablonov Range, is quite differently circumstanced. The whole of the southern half, Dauria, is practically a part of the Desert of Gobi, which lies to the south, and the hot dry winds that blow over that Central Asian Sahara pass freely over it. The dryness of the atmosphere is accordingly so intense that such extensive tracts of water as the Torei Lakes sometimes dry up completely, leaving only a whitish sediment of salt. This part of the region acts like a furnace, drying up still more the already dry atmosphere as far as the 52nd parallel. But further north the climate is more humid, owing to the forests, among which lie extensive swamps and marshes. The north winds are here kept off by the Yablonov and Hangan Ranges.

*Thawing and Freezing of the Rivers.*—The time when the rivers thaw may be taken as from the beginning of April to the beginning of May. The upper waters of the Onon and Arguna are the first, in the beginning of April. The Ingoda follows suit between the 27th April and the 1st of May. The time when they freeze varies from the end of October to the latter half of November, the Ingoda being the first, about October 25th, and the Onon next, about the middle of November, while the Arguna below Ust-Urovskaiia becomes frozen from the 20th to 25th October, its upper waters eight to fourteen days later. The Shilka and Selenga are frozen at the end of October, while on the Baikal sledge communication begins from the 1st to the 10th January, and ends May 1st to 5th.

As for the effect of the climate on health, we may say, to begin with, that epidemics among adults are rare, and even then not virulent. The cholera is quite unknown, though it has often shown itself both on the western and eastern verges of the region. The dry air, charged with ozone, and the abundance of sunshine act as natural prophylactics. The north-west winds in spring are apt to cause inflammation of the lungs, but this seldom leaves any bad effects. Chronic catarrh is quite exceptional. The favourable climatic conditions are further demonstrated by the fact that in the Trans-Baikal in summer men and animals are hardly ever tortured by spiders, gnats, and other winged pests, which in many parts of Siberia literally poison existence during the hot months.



## NAVAL NOTES.

HOME.—The following are the principal appointments which have been made: Vice-Admiral Sir F. G. Bedford, K.C.B., to command of North American and West Indian station. Captains—F. L. Campbell to "Edgar"; C. J. G. Sawle to "Crescent"; E. P. Jones to "Forte"; R. K. McAlpine to "Cleopatra"; E. H. Gamble to "Cæsar"; R. S. Rolleston to "Tribune"; W. B. Fisher to "Magicienne"; E. A. Simons to "Pomone." Commanders.—W. G. Van Ingen to "Boscawen"; M. E. Kerr to "Bittern"; O. A. Stokes to "Antelope."

Vice-Admiral Sir F. G. Bedford, K.C.B., the newly appointed Commander-in-Chief on the North American and West Indian station, hoisted his flag on the 2nd inst. at Portsmouth, on board the first-class cruiser "Crescent," which is to be his flag-ship, relieving Sir John Fisher, who arrived home from Bermuda in the first-class battle-ship "Renown" on the 30th ult., after an excellent passage, the ship having averaged 15 knots the whole way home; Sir John has temporarily struck his flag, and the "Renown" has proceeded to Devonport, where leave will be given to officers and men, before she proceeds to the Mediterranean as Sir John's flag-ship, when he takes over the command of that station from Sir John Hopkins in July next. The first-class cruiser "Edgar" arrived home from Malta on the 15th ult. with the paid-off crew of the "Royal Oak," and she has left again with a new crew for the "Royal Sovereign," which will also pay off and recommission at Malta. The first-class cruiser "Warspite" bearing the flag of Rear-Admiral Beaumont left on the 20th ult. for her station, the Pacific. The second-class cruiser "Talbot" having made good defects and given leave to her crew, left on the 14th ult., again for the West Indies. The second-class cruiser "Forte," commissioned at Chatham on the 20th ult., to relieve the "Fox," a sister-ship, on the Cape and West Coast of Africa station.

*Steam Trials.*—The new first-class cruiser "Amphitrite," of 11,000 tons and 18,000-I.H.P., has completed an interesting series of steam trials. Special importance was attached to these, as an attempt was made to determine whether the steam first used in pumps and other auxiliary machinery connected with the main engines could subsequently be utilised in the evaporators for making fresh water for use in the boilers. Without entering upon detailed results, it may be said that the experiments undertaken showed that this could be done, and thus in future ships a saving will be effected, as in the past, steam for making up the deficiency in the reserve of feed water has been taken direct from the boilers. From the point of view, too, of the ordinary steam trials the results were eminently satisfactory, the coal consumption being less at the various powers than has before been attained in a ship with water-tube boilers. The ship left Chatham on the 8th ult. on her first 30 hours' trial at one-fifth of the full power, and at the close of the trial it was found that consumption was 1.54 lbs., the power being 3,751 indicated, whereas in the other vessels of the same class the consumption was:—"Europa," 2.24 lbs.; "Diadem," 2.21 lbs.; "Ariadne," 2.05 lbs.; "Argonaut," 2.02 lbs.; "Andromeda," 1.98 lbs.; and "Niobe," 1.76 lbs. The accompanying table gives fuller data:—

*Steam Trials of H.M.S. "Amphitrite."*

Date of trial	...	...	...	April 8th and 9th, 1899.
Nature of trial	...	...	...	30 hours' coal consumption at 3,600-I.H.P.
Draught of water	...	...	...	Forward, 24 feet 9 inches. Aft, 26 " 6 "
Speed of ship by log	...	...	...	12·8 knots per hour.
" " at measured distance run	...	...	...	13·32 knots.
Steam pressure in boilers	...	...	...	226 lbs. per square inch.
" " at engines	...	...	...	212 starboard ; 212 port.

				Starboard.	Port.
Vacuum in condensers	...	...	...	26·3	26·9
Revolutions per minute	...	...	...	73·0	72·1
Mean pressure in cylinders	High	...	lbs.	38·7	35·8
	Intermediate	...	"	15·0	15·9
	Forward low	...	"	5·56	5·46
	Aft low	...	"	5·59	5·38
	High	...	...	621	568
	Intermediate	...	...	643	674
Mean I.H.P.	Forward low	...	...	317	308
	Aft low	...	...	318	302
	Total	...	...	1899	1852
Grand total				3751	
Consumption of coal	Per I.H.P. per hour	...	...	...	1·54 lbs.
	Total	...	...	...	173,324 lbs.

On the 3,600-I.H.P. trial, however, only twelve boilers were in use, those nearest the engines, and in view of the economy it may be said that the grate area in use totalled 588 square feet, so that the H.P. equalled 6·37 per square foot of grate, and the coal burnt was 9·84 lbs. per square foot of grate per hour.

On the next trial at the continuous steaming power, severe weather conditions were experienced, a strong south-west wind, increasing to the violence of a gale, being met with. On the run westward into the Atlantic a heavy sea was running, and with one of the waves a young shark was thrown on board right over the fore-castle. The machinery, however worked splendidly throughout, and steadily. No artificial draught whatever was necessary in the stokeholds, and the engines varied little in their power, moving at about 111 revolutions. Eight runs were made over the measured course between Rame Head and the Dodman, and the speed was found to be 19·73 knots for 112 revolutions. At the close of the 30 hours' run it was found that the mean power was 13,695-I.H.P., while the coal consumption was 1·43 lbs. per I.H.P. per hour, the rates for the preceding ships of the class having been:—"Europa," 1·94 lbs.; "Andromeda," 1·74 lbs.; "Ariadne," 1·73 lbs.; "Diadem," 1·61 lbs.; "Argonaut," 1·60 lbs.; and "Niobe," 1·55 lbs. The full-power trial was made on April 17th when, with fans running easily and without any pressure whatever, the contract conditions were exceeded. Throughout the eight hours the power never once was below 18,000-I.H.P., and varied but slightly, the mean being 18,229-I.H.P. Four runs were made over the measured course, when the anticipated speed was exceeded. The ship was at her full displacement, the draught on this occasion being 24 feet 3 inches forward and 26 feet 3 inches aft.

The appended table gives the mean results, including pressures in the receivers and cylinders, as well as the powers, for both 13,500-I.H.P. and full-power trials. On the first-named trial the power varied from 13,169 to 14,085-I.H.P., and at the eight hours' trial from 18,062, the rate for the first two hours, to 18,443-I.H.P., the aim being not to exceed the designed rate to any great extent.

The total weight of machinery complete is 1,550 tons, and of boilers 757 tons, and it may be interesting to note that on the full-power run the power developed

was equal to 24 units per ton of boilers, and to 11·7-I.H.P. per ton of machinery. The fuel consumption was at the rate of 19·8 lbs. per square foot of grate, and the power developed equalled 13·1 per square foot of grate, while the heating surface per unit of power is 2·62 square feet. It may be added that on the occasion of evaporative trials on shore with two of the boilers, the coal burnt per square foot of grate was at the rate of 30·38 lbs. per hour, and the water evaporated 9·37 lbs., the equivalent evaporation per pound of coal from and at 212° Fahr. being 11·45 lbs. The steam pressure was 300 lbs. This trial was of four hours' duration.

*Results of Steam Trials of H.M.S. "Ambhitrite."*

		First trial.	Second trial.
Date of trial ...	...	April 12th and 13th, 1899.	April 17th, 1899.
Nature of trial ...	...	30 hours' coal consumption at 13,500-I.H.P.	8 hours' full-power at 18,000-I.H.P.
Draught of water ...	{	Forward, 24 feet 3 inches. Aft, 26 " 3 "	Forward, 24 feet 3 inches. Aft, 26 " 3 "
Speed of ship, nautical miles per hour ...	{	19·73 on measured course, 19·52 by log.	20·78 mean of four runs, 20·94 by log.
Steam pressure in boilers ...	{	252 lbs. per square inch; reduced steam, 240 lbs.	279 lbs. per square inch; reduced steam, 254 lbs.
Air pressure in stoke-holds ...	{	<i>nil.</i>	<i>nil.</i>

		First trial.		Second trial.	
		Star-board.	Port.	Star-board.	Port.
Vacuum in condensers ...	... inches	25·8	26·2	26·2	26·3
Revolutions per minute ...	...	111·6	110·6	122·4	121·2
Mean pressure in cylinders	High ... lbs.	89·8	89·2	103·0	102·6
	Intermediate "	36·2	36·4	44·0	44·3
	Forward low "	13·2	13·1	17·2	16·6
	Aft low ... "	13·5	13·2	16·8	17·0
Mean I.H.P....	High ...	2208	2174	2770	2736
	Intermediate ...	2364	2355	3155	3147
	Forward low ...	1149	1130	1638	1569
	Aft low ...	1177	1138	1608	1606
Total ...		6898	6797	9171	9058
Grand total ...		13,695		18,229	
Consumption of coal ...	Per I.H.P. per hour	1·43 lbs.		1·57 lbs.	
	Total ...	587,760 lbs.		228,360 lbs.	

*—Times and Engineering.*

A successful preliminary trial of the new torpedo-boat-destroyer "Albatross," built by Messrs. John I. Thornycroft and Co., of Chiswick, took place last month at the Maplin Sands, when she attained the highest speed yet recorded of any war-vessel with Admiralty officials on board, the result of three consecutive runs on the measured mile being as follows:—

Time.		Speed.	Revolutions.	Conditions.
Min.	Secs.	Knots.		
1	58·8	30·303	401·1	Against wind and tide.
1	45·0	34·286	399·7	With wind and tide.
1	58·8	30·303	399·6	Against wind and tide.

The mean speed was thus 32.294 knots, and the revolutions 400. The steam pressure in the boilers was 245 lbs. per square inch, and 240 lbs. at the engines; air pressure in stokeholds, 3.5 inches; pressure in furnace blowing pipes, 2.5 lbs. The boilers showed no signs of priming, and there was no flaming at the funnels, the little smoke from the latter being of a light brown colour, showing the perfect combustion obtained by Messrs. Thornycroft's system of blowing high-pressure air jets into the furnaces, in addition to the forced draught. There was no vibration or racing of the engines, which worked satisfactorily, without hot bearings or condenser troubles.

The weather was very boisterous and squally, the wind varying in velocity from about 30 to 20 knots. The vessel is well flared at the bow and is consequently very dry on deck, even when going full speed against wind and sea, and scarcely heels even when turning sharply. The dimensions of the "Albatross" are:—Length, 227 feet; beam, 21 feet 3 inches; and draught, 8 feet 6 inches. She is therefore considerably larger than the 27 and 30-knot boats already in the Service, and the value of the high speed obtained was well shown when running abreast of the destroyer flotilla at their full speed. Undoubtedly the larger vessel is the better sea boat, and has a larger radius of action at high speed, as well as greater comfort for the crew.

The new torpedo-boat-destroyers "Orwell" and "Mermaid," built respectively by Messrs. Laird, of Birkenhead, and Hawthorne, Leslie and Co., of Newcastle-on-Tyne, have successfully completed their preliminary full-speed trials, the "Orwell" realising a mean speed of 30.4 knots, and the "Mermaid" 30.1.

The torpedo-gunboat "Sheldrake," Commander A. Dodgson, has returned to Devonport from the fourth of her nine runs of 1,000 miles each with the Babcock and Willcox water-tube boilers. The trial took place in the English Channel under favourable conditions, the boilers steaming continuously for 68 hours. The average speed was 14.7 knots with an I.H.P. of 1,500. The coal was of better quality and burnt more freely than that used during the previous trial, the consumption being 1.59 lbs. per I.H.P. This was a better result than for either of the preceding runs. The heating surface was 6,528 square feet, and the grate surface was 189 square feet, the quantity of coal burnt for the grate surface was 15.1 lbs. per square foot. The boilers showed no weakness or defect, and have proved more economical in coal consumption as the trials have proceeded. In other respects the boilers have worked efficiently, and the engine-room hands have obtained a good knowledge of the system. The next trial will be at 1,800-I.H.P. —*Times*.

*Armour Plate Trials.*—On board the "Nettle," target ship, on the 18th ult. at Portsmouth, a trial took place of a 6-inch special nickel hard-faced plate—8 feet by 6 feet—made by Messrs. Vickers, Sons, and Maxim (Limited), to ascertain the exact velocity from a 6-inch breech-loader gun firing Holtzer armour-piercing projectiles that would be required to perforate it. The idea of this trial was to see if this class of armour should be substituted for the ordinary steel Harveyized armour now being used for casemates, gun shields, etc., and the result proved highly satisfactory in every way. At the first round, with a 100 lbs. Holtzer armour-piercing projectile, having a velocity of 1,507 foot-seconds, the penetration was only 1½ inches, the shell being broken to small pieces, and there were no cracks on the plate. At the second round the velocity was increased to 1,815 foot-seconds with the same class of shell, and the penetration was about 4 inches, the projectile being again broken up on the face of the plate, but still the plate remained uncracked. As this had proved so satisfactory the full velocity of the gun—viz., 1,960 foot-seconds—was fired at the plate as a means of comparing it with the same quality of plate Harveyized. The result was complete perforation, although the plate was not cracked in any way. The velocity was then reduced to 1,870 foot-seconds for the last shot, which just perforated, the shell being broken up in the hole, but the plate was still uncracked. Comparing this with the old class

of armour great strides have been made, a special nickel hard-faced plate un-Harveyized being equal to the ordinary steel plate Harveyized of two years ago, and at the same time entirely free from any cracks.—*Times*.

*Non-Flammable Wood.*—The Admiralty have purchased from the Non-Flammable Wood Company, who have works near Fulham, for the new Royal yacht at Pembroke, a supply of about 300,000 feet, or nearly 800 tons. This is of various kinds, and has been selected by Admiralty carpenters. The company do not claim that their wood is fireproof, for it chars; but they claim that it does not convey flame, and so spread a conflagration. The Admiralty tests being satisfactory to that department, the company have very large orders in hand for the battle-ships and cruisers, the wood apparently meeting with much favour. So much is this the case that they have already received orders for some 350,000 feet for the ships at present completing under last year's programme.

*Naval Musketry Returns for 1898.*—The returns of rifle practice by the petty officers and seamen of Her Majesty's fleet during the past twelve months show that the results were not nearly so satisfactory as those of the previous year, the average points obtained being only 134.53, as against 147.78 for the previous year. Some of the individual results, however, are exceedingly good, the highest score being two points above that of 1897. The best ship record is that of the "Curaçoa." Fifty-five of her crew took part in the competitions, and no fewer than 49 scored over 165 points, thus securing the marksman's badge, the average points obtained being 176.4 out of a possible 240. The best shot in the Service is Petty Officer A. Gloyne, of the cruiser "Royalist" on the Australian station, who scored 227 points. This is a record score for the Navy, being two points ahead of the highest score of last year and seven points ahead of the highest in 1896. The next highest scores are:—F. Stratford, gunnery instructor of the cruiser "Orlando," 225; M. Jopling, gunnery instructor of the dépôt ship "Magdala," 220; A. Robertson, gunnery instructor of the cruiser "Iphigenia," 217; T. Dix, first-class petty officer of the cruiser "Katoomba," 217; A. Gough, seaman gunner of the gun-boat "Lapwing," 214; J. Davies, chief petty officer of the "Vivid," 213; F. Patient, gunnery instructor of the gun-boat "Wallaroo," 212. Three of the petty officers mentioned above were included in the six highest scores in the previous year's returns with the following totals:—Stratford, 222; Jopling, 220; and Robertson, 216. The squadron results are as follow:—

Squadron.	Average Points.	Number who competed.
Particular service... ..	155.99	218
East Indies... ..	154.85	622
Australia... ..	142.72	1,185
Port-guard ships... ..	142.3	465
Pacific... ..	139.28	663
Mediterranean... ..	134.85	5,178
Coastguard and tenders... ..	131.7	944
China... ..	130.45	689
North America and West Indies... ..	119.70	1,133
Cape and West Coast of Africa... ..	115.2	261
South-East Coast of America... ..	102.6	154

The number of men who took part in the firing was 11,626, of whom 1,623 qualified as marksmen. Out of a total of 123 ships, from which complete returns have been received, four only were armed with the old Martini-Henry rifle, the remainder using the Lee-Metford.

*Musketry Returns for Royal Marines, 1897-98.*—An abstract of returns of rifle practice of the Royal Marines serving afloat for 1897-98 has been issued.



The results are given of 105 ships, but it is stated that no returns have been received from the Channel or Training Squadrons, nor from 62 ships on foreign stations. The report, therefore, applies to little more than half the Marines serving afloat. In order of merit the East Indian Squadron comes first, the average points obtained out of a possible 240 being 157·65, with 136 men competing. On the Australian station 316 men fired, and the average was 150·58, and on the Pacific station the average of 143 men's shooting produced 141·37. On the China station 326 men fired, giving an average of 138·48, and in the Coast-guard, with 405 competitors, the mean was 136·05 points. On the North American and West Indian station, where 406 competed, the average was 134·47; but the highest number of competitors was obtained in the Mediterranean, where 1,367 men fired and averaged 130·59 points. At the Cape only 133 men went to the targets, with an average of 123·15 points, while on the South-East Coast of America, where only 32 men competed, the result was as low as 101·8 points, or considerably less than 50 per cent. of the possible score. While the number of marksmen has increased the average of points has diminished, for in 1896-97 the marksmen were 591, as against 650 in 1897-98, and in the latter period the average points were 138·03, as against 141·35 in the previous year. This disparity may be accounted for by the fact that whereas in 1896-97, 2,498 men were exercised in the following year no less than 3,533 men went to the targets. Sergeant J. H. Rann, R.M.A., who fired with the "Alexandra's" detachment, had the best record, having made 219 points, while the East Indian station scored the best proportion of marksmen, for, with nine men of the "Redbreast" competing, there were nine marksmen, the average number of points obtained being 183·7.

*The Naval Works Act.*—A statement of estimated expenditure on naval works to March, 31st, 1899, under the Naval Works Act, 1897, has just been issued as a Parliamentary paper. The statement shows a total increase from £1,270,868, the estimated expenditure in 1898-99, to £3,638,665, the total estimated expenditure to March 31st, 1899. Thus, the expenditure on Gibraltar for various purposes is to be increased from £248,000 to £903,174. Other increases are:—For the enclosure and defence of Portland Harbour, from £43,000 to £254,590; for deepening harbours and approaches, from £69,000 to £650,587; for Keyham Dockyard Extension, from £245,000 to £518,125; for Portsmouth Docks, from £1,000 to £373,442; for Hong-Kong Dockyard Extension, from £54,600 to £61,965; for Haulbowline improvements, from £18,207 to £38,075; for Keyham Engineers' College, from £3,500 to £23,545; and for Dartmouth College for Naval Cadets, from £52,000 to £52,165. The item of superintendence and miscellaneous charges is to be increased from £48,000 to £132,410, while two new items are £26,325 and £17,658 for Chatham Naval Hospital and Walmer Marine Depot. No increase is provided in the estimate of £15,000 for Colombo Dock.—*Naval and Military Record.*

FRANCE.—Appointments and promotion: Capitaine de Vaisseau—P. L. Germinet to "Protet" and command of Pacific Naval Division. Capitaines de Frégate—C. Paupie to Capitaine de Vaisseau; R. D. de Beausacq to "Lavoisier"; A. J. Barry to "Cosmao."—*Le Journal Officiel de la République Française.*

*Personal.*—It is reported that Vice-Admiral Cavalier de Cuverville, Chief of the General Staff of the Navy, has asked to be allowed to resign his appointment. The news has been received with much surprise and some doubt as to its correctness, as Admiral de Cuverville has always been considered to be M. Lockroy's right-hand man. The reason given for his resignation is that he disapproves of the terms of the new decree regulating the *points d'appui* and the functions of the Colonial and Naval Departments, believing that these regulations will result in a conflict of authority, and that they possess the grave defect of not sufficiently defining the respective responsibilities.

The following are the principal movements of ships at various ports :—

*Cherbourg*.—The torpedo-cruiser "Fleurus" commissioned on the 27th ult. to relieve the "Épervier" in the Northern Squadron, completing her complement from the latter ship, which was paid off on the 26th ult. The new torpedo-boat "Durandal" has arrived from Havre, where she was built, and was commissioned on the 15th ult. for her trials. On the run round from Havre she averaged 25 knots per hour.

*Brest*.—The third-class cruiser "Nielly" commissioned on the 4th ult. to relieve a sister-ship, the "Fabert," in the East Indies. The second-class cruiser "Dubourdieu," bearing the flag of Rear-Admiral Escande, late commanding the Atlantic Division, arrived on the 16th ult. The admiral struck his flag on the 20th, and the ship proceeded to Lorient to pay off. The despatch-vessel "Fulton" has also arrived; her place in the Atlantic Division is to be taken by the third-class cruiser "Troude."

*Lorient*.—The second-class cruiser "Dubourdieu" has arrived, and is to be paid off, after which she is to become a stationary training-ship for naval apprentices.

*Rocheport*.—The second-class cruiser "Amiral-Protet" was commissioned on the 20th ult. to relieve the "Duguay-Trouin" as senior officer's ship in the Pacific. The despatch-vessel "Durand" from Senegal was paid off on the 20th April.

*Toulon*.—Rear-Admiral Richard hoisted his flag on board the first-class cruiser "Cécille" in command of the Atlantic Squadron on the 20th ult., and left on the 25th ult. for Martinique. The new first-class cruiser "D'Entrecasteaux" left on the 13th ult. for China, where on arrival she will hoist the flag of Rear-Admiral Courrejolles. The third-class cruiser "Troude" has been commissioned to take the place of the "Fulton" in the Atlantic Division.

*Saigon*.—The third-class cruiser "Duguay-Trouin," late senior officer's ship in the Pacific, instead of returning to Rocheport to pay off, as originally intended, will pay off and be placed in the Reserve at this port.

Work in the Dockyards :—

*Lorient*.—The first-class protected cruiser "Jurien de la Gravière" is to be launched in July next; she is well advanced. The Minister of Marine has decided that the new first-class armoured cruiser "Condé" is to be built at this yard, instead of at Cherbourg, as was originally intended, the reason being that she is a sister-ship to the "Gloire," already building here, and it is considered that some economy will be effected by constructing the two ships alongside each other. A third armoured cruiser, the "Amiral-Gueydon," which was laid down in 1897, is also on the stocks here and will soon be ready for launching. Altogether there will be seven new vessels under construction at the yard during the year, the others being the first-class battle-ship "St. Louis," the first-class gun-boat "Décidée," and the submarine-boat "Q 8."

*Cherbourg*.—There will be ten ships under construction during the year. Of these the coast-defence battle-ship "Henri IV" is to be launched on the 23rd August; of the others, two torpedo-boat destroyers "Dunois" and "La Hire," are approaching completion; two submarine-boats, the "Morse" and the "Narval," have been commenced, a third "Q 5," and the "Français" and "Algérien," for whose cost a public subscription was lately made, are to be laid down immediately, together with two torpedo-boats, "223" and "224." In view of the large amount of work on hand in the yard, 150 extra men have been entered.

The repairs to the coast-defence battle-ship "Furieux" have been postponed until next year, by which time the "Requin," another of the old coast-defence ships undergoing reconstruction will be out of hand.

*Brest*.—There will be eight ships under construction at this yard during the year, viz., 5 battle-ships, 1 armoured cruiser, and 2 submarine-boats. Of the

battle-ships, the "Charlemagne" and "Gaulois" are still waiting for the completion of the turrets for the heavy guns; the "Iéna," launched at the beginning of the year, is being rapidly pushed on, while the "Suffren" is still on the stocks; the armoured cruiser "C 9" and the submarine-boats "Q 6" and "Q 7" are to be commenced shortly.

*Rochefort.*—Seven vessels will be under construction. The first-class armoured cruiser "Dupleix," commenced last year; the despatch-cruiser "H 4" to be laid down towards the end of the present year; the other vessels being the third class cruiser "D'Estrées," the first-class gun-boat "Zélée," two submarine-boats, and the aviso-transport "Vaucluse."

*Toulon.*—Only four vessels will be under construction here during the year; viz., the two armoured cruisers, "Jeanne d'Arc" and "Dupetit-Thouars," with two torpedo-boats, Nos. "225" and "226."

*Saigon.*—Two torpedo-boats, Nos. "242" and "244," are being built.

The Minister of Marine has given directions that the 8 torpedo-avisos of the "Bombe" class are to have mounted amidships a 15·5-centimetre howitzer or mortar, in addition to the four 3-pounder Q.F. guns and two machine guns they carry at present; they will also retain their torpedo-tubes. The private yards have been asked to send in plans for a vessel of 500 tons of 26 knots speed, to carry a 24-centimetre howitzer amidships, with eight 3-pounder Q.F. guns, but no torpedo-tubes.

The second-class battle-ship "Dévastation" at present forming one of the Northern Squadron, will shortly be paid off for repairs and to have water-tube boilers substituted for her cylindrical ones.

The following is a comparison, given by the *Temps*, of the total number of ships and vessels in the French Navy for the years 1898 and 1899, showing but a slight increase for the current year:—

1898—425 vessels completed.	65 under construction.
1899—426     "     "     "	69     "     "

*The Points d'appui of the Fleet.*—A decree has been issued regarding the *points d'appui* of the Fleet and apportioning the responsibilities of the two departments concerned in them, namely, the Marine and Colonies.

It will be remembered that in agreement with the vote of the Chamber when the Naval Budget was under discussion the *points d'appui* are to continue to be provisionally administered by the Department of the Colonies. On the other hand, the Navy is to be charged with the control of the defence and with the arsenals placed for its use. Consequently it was necessary that regulations apportioning the authority of the two departments should be drawn up; they are given in the decree as follows:—

The *points d'appui* of the Fleet are classed as *places de guerre*, besides those which already exist, namely, Fort de France, Dakar, Saigon, Cap Saint Jacques, Port Courbet, Nouméa, and Diego Suarez. The Minister of Marine is empowered to class other ports in the same category as he may think necessary.

At each *point d'appui* the senior naval officer has under his authority all the *personnel* and *matériel* belonging to the Department of Marine and has joint authority with the commander of the place.

In time of peace the senior naval officer corresponds directly with the Naval Department in all matters that concern the Navy and naval establishments, but he is to communicate all correspondence regarding the defence to the Minister of the Colonies through the Governor of the Colony; for all other matters which he may have to do with as assistant to the commandant of the place, he receives orders from the Department of the Colonies and directions from the senior military officer.

In time of war the senior naval officer receives his orders from the senior military officer, who is to exercise, under the authority of the governor, the

command of the naval and military forces on shore or in the waters of the colony.

Before moving any of a permanent garrison the two Departments of Marine and Colonies are to determine the minimum force required, which is never to be removed on any pretence whatever. One exception, however, may be allowed to this rule during peace. On account of the great distance separating most of the colonial garrisons, the governor has power to detach one-third of the garrison of all arms for the purpose of maintaining authority elsewhere, but the men are only to be absent for the time that may be strictly necessary.

As regards works to be undertaken on shore, the Minister of Marine is to have sole charge of all such as are connected with the arsenal and its dependencies, and the Minister of the Colonies of such as are concerned with forts and military buildings.

*Movements of Mediterranean and Northern Squadrons.*—The Northern Squadron, under the command of Vice-Admiral Sallandrouze de Lamornaix, accompanied by the three cruisers of the École Supérieure de la Marine, under Rear-Admiral Bienaimé, proceeded from Brest to Cherbourg on 10th April. The Minister of Marine took passage on board the flag-ship "Formidable" and landed at Cherbourg.

The following programme has been published regarding the movements of this squadron. Leave Cherbourg for Brest on 26th April, calling at some intermediate ports, and exercising target practice and other drills *en route*. Complete with provisions and stores on arrival at Brest. During May visits will be paid to the anchorages on the West Coast of France, and at the end of the month the squadron returns to Brest. Leave Brest again on 15th June and visit northern Spanish ports, Cadiz and Tangiers, one division going to Lisbon. Towards the middle of July return to the northern coast of France, and finally proceed to Cherbourg for inspection.

The Mediterranean Squadron, under the command of Vice-Admiral Fournier, consisting of the first-class battle-ships "Brennus" (flag-ship), "Carnot," "Charles-Martel," "Bouvet," "Masséna," "Jauréguiberry"; the first-class armoured cruisers "Pothuau," "Latouche-Tréville," and "Chanzy," with the second-class cruiser "Du Chayla," visited Cagliari on 9th April for the purpose of saluting their Majesties the King and Queen of Italy, and returned to Toulon on the 20th April.

The *Journal Officiel* publishes an important decree relative to the corps of inspectors of the Control Department of the Navy. The decree is only provisional, pending the ratification of a *projet de loi* on the subject, which has been submitted to the Chamber.

It gives relative naval rank to the inspectors, so as to make them superior to the officials at the different ports where their inspecting duties take them. The corps of inspectors is as follows:—

1 inspector-general to rank with -	-	rear-admiral
5 chief-inspectors to rank - - -	-	{ after rear-admiral and before capitaine de vaisseau
14 first-class inspectors to rank with -	-	capitaine de vaisseau
6 second-class inspectors to rank with -	-	capitaine de frégate
10 assistant inspectors to rank with -	-	capitaine de corvette

*The Torpedo School.*—The Minister of Marine has issued the following new regulations for the organisation of the school for torpedo officers and torpedo mechanics at present installed on shore at Toulon, and attached to the Submarine Defence Department at that port:—

1. The preliminary examination in electricity, required of candidates, is abolished.

2. The length of the period of instruction is fixed at 10 months.
3. The power of obtaining a brevet as torpedo officer by direct-examination without passing through the school is abolished.
4. A torpedo officer who has obtained his brevet by direct examination will not be allowed to pass through the school to requalify.

The course of the officer-students at present going through the school will only last eight months, from 1st December, 1898, to 1st August, 1899. Further, the officer-professors who belonged to the old torpedo school (the "Algésiras") will be considered as having completed their two years' appointment on the 1st August, 1899. The organisation of the school for torpedo mechanics is to remain as fixed by the decree of April, 1891, with such modifications as may be necessary in consequence of the transference of the school to the shore. A slight modification has been introduced into the course, by the study of the launching apparatus being made obligatory, as it is necessary that the mechanics should be initiated into the working of the tubes, especially of those for under-water use.—*Le Yacht, Le Moniteur de la Flotte, and Le Temps.*

GERMANY.—The following are the principal promotions and appointments which have been made: Rear-Admirals:—H.R.H. Prince Henry of Prussia to command of Cruiser Squadron; Oldekop to Vice-Admiral. Kapitän zur See—Diederichsen, Fritze, Geissler, and von Schuckmann to Rear-Admirals; Fritze to command of Second Division of Cruiser Squadron; Freiherr von Lyncker as Superintendent of ships' trials at Kiel; von der Groeben for service at Ministry of Marine. Fregatten-Kapitän—Müller and Truppel to Kapitän zur See; Rottock for service at Ministry of Marine; Kretschmann to "Gneisenau"; Bachem to "Gazelle"; Deubel to "Skorpion" in command of the armoured Gun-boat Division; Engel to "Carola"; Schönfelder to "Hyäne"; Bruch to command one of the torpedo-boat flotillas; Becker to "Grille"; von Dassel to "Zieten."—*Marine-Verordnungsblatt.*

*Personal.*—Although by the Estimates for 1899, the rear-admirals' list appears as fixed at 10, yet considerable latitude is evidently allowed to the authorities, in this case presumably the Kaiser himself, for adding at will to the numbers, as four new promotions to that rank have been made since the beginning of the year, and the list now stands at 15. With one exception, all the flag-officers are employed. The only full admiral, Koester, is Commander-in-Chief of the Baltic station and Inspector-General of the Fleet. Of the four vice-admirals, Karcher is Commander-in-Chief of the North Sea station; Thomsen of the First Squadron; von Diederichs, lately in command of the Cruiser Squadron in the East, is at present unemployed; and Oldekop is Inspector of the Construction Department. Of the 15 rear-admirals, Hoffman is Inspector of the Second Naval Inspectorate; von Senden-Bibrán is head of the Emperor's Naval Cabinet; Bendemann, Chief of the Staff of the Navy; Tirpitz, Secretary of State for the Navy; H.R.H. Prince Henry of Prussia, Commander-in-Chief of the Cruising Squadron; Freiherr von Arnim, Inspector of the Torpedo Department; Büchsel, Director of the Naval Department at the Ministry of Marine; Sack, President of the Armament Department at the Ministry of Marine; Freiherr von Bodenhausen, Inspector of the First Naval Inspectorate; von Wietersheim, Second-in-command of First Squadron; H. von Schuckmann, in charge of Wilhelmshaven Dockyard; Geisler, Inspector of Naval Gunnery Department; O. von Schuckmann, Commandant of Heligoland; Diederichsen, President of the Commission for ships' trials; Fritze, Second-in-command of Cruiser Squadron.

*Movements of Ships.*—The First Squadron under the command of Vice-Admiral Thomsen, consisting of the first-class battle-ships "Kurfürst Friedrich Wilhelm," "Brandenburg" (flag-ship of commander-in-chief), "Weissenburg," and "Wörth"



the second-class battle-ship "Baden" (flag-ship of Rear-Admiral von Wietersheim); the fourth-class coast-defence ship "Ægir," and the despatch-vessels "Hela" and "Wacht," are on a longer cruise than usual, as they have proceeded to Lisbon, having called *en route* at Dover, while the "Baden" and "Ægir" also coaled at Falmouth. The "Oldenburg," which formerly belonged to the second division of the squadron, has been paid off and her crew turned over to the "Sachsen," which ship, however, has yet to undergo her steam trials after her refit and new boiling, so the "Ægir" has been temporarily attached to the squadron in her place, and an opportunity will be afforded of testing her sea qualities more effectually than has yet been done. The first-class armoured cruiser "Kaiser," which for the last three years has been the flag-ship of the Cruising Squadron, is to return to Kiel. The new second-class cruiser "Hansa" was commissioned on the 17th ult., at Wilhelmshaven, and is to proceed forthwith with her trials.

The cadet and boy training-ships, which generally start on their winter cruises at the conclusion of the manœuvres in the autumn, are this year to leave two months earlier. The first ship to start, the "Moltke," will leave Kiel on the 5th July, proceeding to Plymouth, the Azores, Rio de Janeiro, and then to the West Indies, returning to Kiel at the beginning of next April. During the cruise 122 days will be spent at sea and 141 in harbour. The training-ship "Carola" has been paid off at Wilhelmshaven, and her crew turned over to the "Gneisenau," one of the old cruiser-frigates and a somewhat larger vessel. Eight hundred ordinary seamen and 300 boys have been embarked in the sea-going training frigates for the nine months' foreign cruise, as follows:—On board the "Charlotte" 203, the "Stosch" 210, "Moltke" 210, "Gneisenau" 210, "Nixe" 230.

*New Ships and Dockyard Work.*—The new first-class battle-ships "Kaiser Friedrich III." is still in the dockyard hands at Kiel, making good some defects in her boilers, which developed themselves during her late trials, and being in other respects finally completed for sea, among other work being carried out is the fitting of an additional ventilating machine in the foremost stokehold. It is expected that the ship will have completed her final trials and be ready for commissioning by the 1st August, when she will take the place of the torpedo-school ship "Blücher" as flag-ship of the commanding admiral during the Autumn Manœuvres. The "Kaiser Wilhelm III." is the first of the new type of battle-ships for the German Navy. Four other vessels of the same class are in different stages of construction, viz., the "Kaiser Wilhelm II." at Wilhelmshaven, the Ersatz "König Wilhelm" at Kiel, which are to be completed by next summer, and the two vessels "A" and "B" commenced last year, the one at Hamburg, and the other at Danzig; three more of the same class are to be laid down this year and two in 1900. Their principal dimensions and characteristics are as follows:—Length, 377 feet 4 inches; beam, 67 feet; mean draught, 25 feet 8 inches; with a displacement of 11,130 tons. Armoured protection is afforded by a water-line belt of the new Krupp hardened steel, running from the stem for four-fifths the length of the ship, with a maximum thickness of 12 inches, tapering to 6; there is also a strongly curved deck, 2.5 inches thick, which is increased to 3 inches over the after part of the ship where the belt does not extend, and a cofferdam filled with cellulose also runs round the water-line behind the belt. The armament consists of nothing but Q.F. guns, and is as follows:—Four 24-centimetre (9.4-inch) 40-calibre guns in turrets, plated with 10-inch steel, one forward and one aft, the level of the guns in the foremost turret being 26 feet above the water-line, while those in the after turret are only 13 feet above the water; eighteen 15-centimetre (5.9-inch) guns, mounted part in small turrets and part in casemates protected by 6-inch steel, and on the superstructure are twelve 3.3-inch and two machine guns, twenty-two others being distributed in different parts of the ship. There are three screws, and the engines are to develop 13,000 I.H.P., giving a speed of 18 knots, the normal coal

supply being 650 tons, and the maximum 1,000. The following types of water-tube boilers have been under trial, viz.:—Belleville in the "Hertha," where they have given much trouble; Dürr in the "Victoria Luise"; Niclausse in the "Freya"; and Thornycroft in the "Kaiser Friedrich III." and "Ægir"; and it is now stated that the Thornycroft type will be the type adopted for future ships.

The third-class battle-ship "Oldenburg" has been paid off at Wilhelmshaven, where she is to receive new boilers and undergo extensive repairs.

The keel of the new battle-ship "C" is to be laid at Wilhelmshaven in the early part of next month and all the material necessary for pushing on the work of construction, when once the keel is laid, is being got ready; although of the same class as the "Kaiser Friedrich Wilhelm," certain improvements are to be made, notably in an increase of speed from 18 to 19 knots, the engines to develop 15,000-I.H.P., as against 13,000 in the earlier ships.

The fourth-class battle-ship "Hagen," one of the "Siegfried" class, has been placed in dock at Kiel, to be lengthened amidships, this is being done principally to increase the coal stowage, which is at present only 230 tons, so as to improve her radius of action, but the opportunity will be taken to increase her auxiliary armament; the ship is to be lengthened 29 feet.

Work on the first-class armoured cruisers "Fürst Bismarck" and "A" is being pushed on, men working in night shifts. The staff of the yard at Kiel has been increased by 1,100 men, and 6,840 men are at present employed.

The new third-class cruiser "Gazelle" has been paid off at Kiel, and the defects, which were developed in her water-tube boilers during her trials, are to be made good by the Krupp-Germania Yard, where the ship was built.

*Armour Plates.*—Krupp has adopted a new system of hardening by adding 25 per cent. more nickel than formerly, which gives a greater thickness of hardened matter and a harder surface; the cost per ton is increased by over 750 francs, but it is hoped to make up for this by a reduction in the weight of the armour.—*Neue Preussische Kreuz-Zeitung* and *Mittheilungen aus dem Gebiete des Seewesens*.

**JAPAN.—Launch.**—The first-class battle-ship "Asahi," built for the Japanese Government by the Clydebank Engineering and Shipbuilding Company, Glasgow, was launched on the 13th March.

The "Asahi" is the heaviest battle-ship ever built on the Clyde. The principal dimensions of the vessel, which weighed as she stood on the blocks about 7,500 tons, are:—Length between perpendiculars, 400 feet; length over all, 425 feet 6 inches; beam, extreme, 75½ feet 2 inches; depth, moulded, 43 feet 7½ inches; normal mean draught of water, 27 feet 3 inches; displacement, 15,200 tons. The armament will be entirely of Elswick design and manufacture. Four 12-inch guns of the most modern type are to be mounted in pairs in two barbettes, one forward and the other aft, on the middle line of the vessel. Each pair will command an uninterrupted arc of training of 240°. The manipulation of the turntables and all the operations of loading and laying the guns will be performed by hydraulic power. The loading will be practicable with the guns in any position of training. The guns and gunners will be well sheltered by means of heavy armoured shields, which revolve with the turntables. The secondary armament will consist of fourteen 6-inch Q.F. guns, each mounted in a separate casemate, twenty 12-pounder Q.F. guns, eight 3-pounder Q.F. guns, four 2½-pounder Q.F. guns, and four submerged torpedo-tubes in two compartments—one forward and one aft. The magazines and shell rooms for the heavy guns being conveniently situated near the hoists, the longitudinal transport of heavy material will be reduced to a minimum. The vessel is adapted for ramming, the stem being arranged as a powerful spur, strongly supported. Great care has been bestowed upon the arrangement of the protective material. There is a main belt extending for a length of 250 feet amidships, the total depth of this belt being 8 feet 2 inches, and it is intended that when the ship is floating at the normal water-line the lower edge of

the armour will be 5 feet 6 inches below water, and the upper edge 2 feet 8 inches above water. The maximum thickness of the belt is 9 inches. Above the main belt the sides from lower to main deck are covered with armour of a thickness of 6 inches for a length of 250 feet. The protection of the vitals of the ship is rendered the more secure by a heavy protective deck extending all fore and aft, and sloping away from the under side of the main armour belt. The forward conning-tower is composed of 14-inch armour, and the after tower of 3-inch armour. The whole of the armour plating is being manufactured of the highest quality procurable.

The ship is to be propelled by two sets of three-cylinder triple-expansion engines. Each of the sets is designed to develop 7,500-I.H.P., giving a combined I.H.P. of 15,000. Steam will be supplied by water-tube boilers of the Belleville economiser type, working at a pressure of 300 lbs., which will be reduced at the engines to 250 lbs. Each set of engines will be placed in a separate engine-room, divided by a longitudinal water-tight bulkhead which extends the whole length of the machinery space, and each engine-room is in all respects exactly similar and entirely independent of the other. The coal bunkers will have a total capacity of about 1,400 tons.—*Times*.

*New Cruiser.*—Want of space has prevented us from giving full details earlier of the new Japanese protected cruiser "Kasagi," which, built at Philadelphia by Messrs. Cramp, was sent over to England to receive her armament from the great Elswick firm, and which left for Japan some six weeks ago. The ship is worthy of special notice, in view of her powerful armament, the amount of protection afforded, her high speed, and good coal supply, in all of which points she is superior to vessels of a somewhat similar tonnage in our own Navy, such as the "Astræa" class, the Japanese cruiser, however, being 400 tons larger.

The following interesting description of the "Kasagi" is mainly taken from the *Engineer*, to the courtesy of whose editor we are also indebted for the accompanying plates:—

"The "Kasagi" was built at Philadelphia and armed at Elswick. She has an armoured steel deck, 2 inches thick over the flat, and 4½ inches over the slopes, and she is of the following dimensions:—Length between perpendiculars, 396 feet; beam, 49 feet; draught, 17 feet 7 inches; displacement, 4,700 tons; I.H.P., 15,500; 22½ knots speed; two propellers; and she has cost £205,200. Her armament comprises two 8-inch Q.F. guns, ten 4·7-inch Q.F. guns, twelve Q.F. 12-pounders, and four 2½-pounder Q.F. Japanese guns in the tops. She carries five torpedo-tubes, all above water, one of which is at the bows of the vessel, and twenty-five torpedoes are contained in the torpedo racks on board, as the unit for ordinary service. The bodies of these torpedoes are carried in cases or racks of steel wire netting, which is an excellent arrangement, and preserves the rudders and propellers from all possibility of accident. The extreme coal capacity of the bunkers of the "Kasagi" is 1,020 tons. It is assumed, therefore, that her coal capacity, at normal draught, would be about 600 tons. This is good for so small a vessel.

One distinguishing feature in the "Kasagi" is the absence of wood everywhere; decks—excepting the upper ones—partitions of cabins, sides and treads of companion ladders, ceilings of cabins, and nearly all other features which in ships have been immemorially constructed of wood, are here found to be of steel or some other metal. The captain's cabins are ceiled with embossed steel, excessively thin and yielding to the pressure of the hand. The spokes and rims of the steering-wheels are all of gun-metal. The men's mess-tables are about the only articles which are made of wood, but the seats upon which the men sit at meals are sheet steel boxes, with steel lids, in which their kits—mess gear, etc., etc.—are kept. To prevent discomfort, each man is allowed a little loose board to place upon the top of his box-seat. These would be thrown overboard in action. In the officers' lavatories there are capital enamelled baths, ash-stands, and other articles, but all are of metal, not a scrap of wood being observable anywhere.

The artificers' workshop is very complete, and three good-sized lathes, together with drilling machines and other machinery, all worked by steam, are fitted; but we observed everywhere an absence of spare parts and stores. The conning-tower of the "Kasagi" is differently constructed from those on board British war-vessels. The top, instead of being removable, so as to afford a look out all round, is attached to the sides, and horizontal slits only are left for taking observations. This is possibly a wise arrangement, for there is always a chance of the cover for our conning-towers being lifted off by a blow from a large projectile. There appeared to be no voice-tube exchange stations on board. Mouth-pieces of tubes extending to almost every position, are fixed within the conning-tower itself. The arrangement of anchors is curious, two being on beds upon the port side and one upon the starboard, *vice versa* to the plan on board our vessels.

The armament of the "Kasagi" is her remarkable feature. Whichever way we look at the question, it certainly appears an anomaly that our "Niobe," of 11,000 tons displacement, should carry no weapon of even approximately equivalent potency to the 8-inch Q.F. of the Japanese cruiser of 4,760 tons—assuming that the latter has been judiciously armed, which, however, is begging the whole question. The 8-inch guns, two in number, are mounted fore and aft upon the fore-castle and poop, within very large and roomy steel hoods, 4½ inches thick. They are capable of containing, each, almost a whole gun's crew of the medium sized wiry Japanese bluejackets. In rear of each gun position is the circular mouth of an armoured hoist leading down to the magazines. It projects slightly out of the deck; and has a semi-spherical solid steel cap to cover it, which opens and shuts. When open the ammunition hoist is seen, which works on endless



chains over a roller at the top, and runs out the cartridges—in cylinders—and projectiles, on to a loading tray. A small gun-metal tramway on the deck runs past the hoist, and from each extremity of the gun's possible arc of training. It has trolleys on it for conveying the projectiles to the various loading positions, and the lines have loops for the full and empty trolleys to pass one another, as shown in the accompanying sketch.

The 8-inch gun fires an armour-piercing shot of 250 lbs., and a common shell of 220 lbs., so that the tramways and trolleys are a necessity. The gun weighs 18 tons, and the mounting 11 tons, so that the whole revolving weight is 30 tons.

The 4·7-inch Q.F. guns, which are on either broadside, as seen in the profile, have also good-sized steel shields  $4\frac{1}{2}$  inches thick, and are sponsoned out, so that the forward and aft pairs can point directly ahead or astern, according to their position in the ship, with an arc of training of  $130^\circ$ , whilst those between have an arc of training of  $100^\circ$ . Of course the shields thin off towards the rear. The forward pair is casemated. Armoured tubes protect the ammunition *en route* from the magazines, and a hatch, covered with an armoured circular cap, somewhat similar to that employed for the 8-inch guns, surmounts the hoist for ammunition and projectiles. We should have mentioned that all the ammunition hoists are worked by electric motors, which actuate an endless chain at the side.

The 12-pounder guns have lighter shields, and they occupy intermediate positions between the 4·7-inch Q.F. guns, with the exception of the forward and after pair, which are within casemates of stout steel plating beneath the forecastle and within the captain's cabin respectively. The ammunition for the 12-pounders is also brought up by an electric hoist, through an armoured tube, and opens by a large hatchway into a small, armour-protected square deck-house beneath the poop deck. This is an excellent arrangement for protecting the 12-pounder ammunition until it arrives on deck; from thence it is served to the guns.

Four 2½-pounder Japanese Q.F. guns are in the tops. These are similar to the guns of the "Takasago." They have large shields of different shape from those employed in British tops, but somewhat similar to those of the broadside 12-pounders, only smaller and lighter, of course.

The unit of ammunition carried for the guns of this vessel on ordinary service is as follows:—100 rounds for each 8-inch gun, 200 rounds for each 4·7-inch gun, 300 rounds for each 12-pounder, and 400 rounds for each 2½-pounder. These units are doubled when the ship is despatched on war service. We were told that the whole of this quantity of ammunition could be carried in the magazines, but it is possible that the question may not have been fully understood. It appears a very extraordinary amount to maintain in the magazines, even in the eventualities of war.

The totals of the weights of ordinary ammunition would be as follows:—

Two 8-inch Q.F. guns, 200 projectiles, say	...	...	50,000 lbs.
Charges with metal cylinders, say	...	...	15,000 lbs.
Ten 4·7-inch Q.F. guns, 2,000 projectiles, say	...	...	90,000 lbs.
Charges with metal cylinders, say	...	...	40,600 lbs.
Twelve 12-pounder guns, 3,600 projectiles, say	...	...	43,200 lbs.
Charges with metal cylinders, say	...	...	18,000 lbs.
Four 2½-pounder guns, say 1,600 projectiles, with	...	...	...
charges, say	...	...	6,000 lbs.

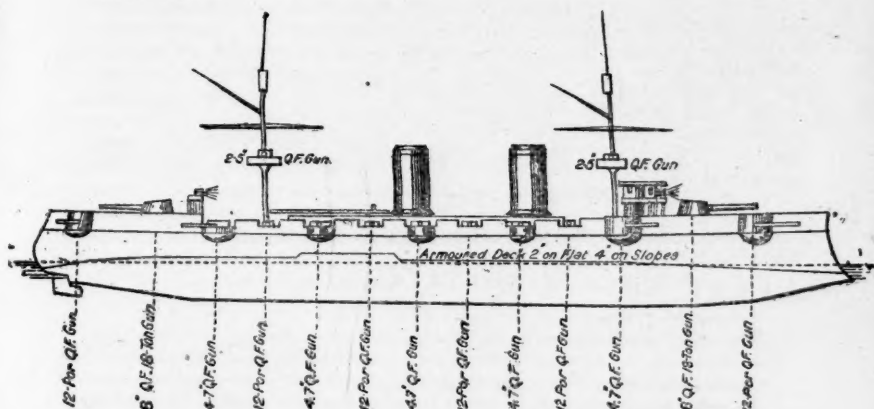
Total ... .. 262,800 lbs.

Or, roughly, with blank and saluting ammunition, about 120 to 130 tons. And on active service this quantity would be doubled.

The mountings and shields of the 8-inch Q.F. guns are rotated by electric motors, and it is said that the whole of the arc of  $270^\circ$  could be passed over easily in



one minute. Elevation is also accomplished by a small motor. These movements can, however, be carried into effect by hand and hand-gear wheels, which worked with the utmost ease and smoothness, and were in action during the occasion of our visit. The opening and closing of the breech was effected by a hand wheel between the breech and trunnion axis; four rounds can be fired in 64 seconds.



JAPANESE CRUISER KASAGI

The appearance of the "Kasagi" did not impress us favourably. The large projecting sponsons, two heavy guns and mountings fore and aft, weighing each over 30 tons, gave us the impression of far too much topweight. Perched, as the latter were, upon the poop and forecastle, with 30 tons weight so close to the stem, and three anchors besides, to say nothing of chains and cables, etc., we should say that the "Kasagi" would plunge and make very bad weather in a heavy sea. And the proximity of the broadside guns to one another is so remarkable that there would be hardly room to work them. It certainly does seem singular that a vessel only 400 tons superior in displacement to the "Astræa" can carry an armament so immensely superior in weight of metal and in actual numbers, the following being a comparative statement:—

"Astræa."			"Kasagi."		
Two 6-inch Q.F. guns	...	...	Two 8-inch Q.F. guns.		
Eight 4.7-inch "	...	...	Ten 4.7-inch "		
Eight 6-pounder Q.F. guns	...	...	Twelve 12-pounder Q.F. guns.		
One 3-pounder "	...	...	Four 2½ pounder "		

This, too, is independent of the question of coal capacity and engine power. The Japanese cruiser is better off by 50 per cent. as regards the first item. As regards the second, there is a difference of no less than 3 knots in favour of the "Kasagi."

Wherein, then, do these vessels differ? We believe that a solution might be found by examining the framing, scantling, double bottom, and, more than all, the skin plating of the new ships. Sir W. H. White puts down the following percentages of the whole displacement as distributed over the weights of a fast protected cruiser of this type:—Hull, 38; propelling machinery and coals, 35; protective material, 16; armament and equipment, 11. But he had not in view engines and boilers working up to 15,500-I.H.P. for a vessel of 4,760 tons, or coal bunker capacity of 1,000 tons, or armament and equipment, which must

absorb at least 15 or 16 per cent. of the whole. Yet it is clear that if all these extraordinary weights are present, the percentage of 38 for the hull must have been seriously discounted in the designing of the "Kasagi." We merely offer this as a possible solution of the enigma—for an enigma it certainly is."

RUSSIA.—The following are the principal promotions and appointments:—Vice-Admiral—Makarov to command of Pacific and China Squadron. Rear-Admirals to be Vice-Admirals—Andreev and Duhasov. Captains—first-class to be Rear-Admirals—Tikotski, Pareni, and Diachenkov. First-class Captains—Virenius to the battle-ship "Pobieda," Grigorovich to the battle-ship "Cesarévich," Shensnovich to the battle-ship "Retvizan." Second-class Captains—Reitzenstein to the first-class cruiser "Askold," Lushnov to the coast-defence ship "Admiral Chichagov," Shernman to first-class cruiser "Bogatyr," Gavrillov to second-class cruiser "Novik."

According to latest advices, the distribution of ships on foreign service was as follows:—

#### THE PACIFIC.

##### *Port Arthur.*

Battle-ship—"Sissoi Velikie."

First-class cruisers—"Rossia," "Rurik," "Pamiat Azova," "Dimitri Donskoi."

Gun-vessels—"Bobr," Koreetz," and "Otvajny."

Torpedo-cruiser—"Vsadnik."

##### *Ta-lien-wan.*

First-class cruiser—"Admiral Kornilov."

Gun-vessel—"Gremiastchy."

##### *Nagasaki.*

Battle-ship—"Navarin."

First-class cruiser—"Vladimir Monomakh."

##### *Shanghai.*

Gun-vessel—"Sivuch."

##### *Chemulpo.*

Gun-vessel—"Mandchur."

##### *On the way to Valparaiso.*

Second-class cruiser—"Razboinik."

#### MEDITERRANEAN.

##### *Suda Bay.*

Battle-ship—"Imperator Alexander."

Torpedo-cruiser—"Posadnik."

##### *Piræus.*

Gun-vessel—"Groziastchy."

Torpedo-boats—Nos. 119 and 120.

##### *Villafranca.*

Gun-vessel—"Donetz."

##### *Atlantic.*

First-class cruiser—"Herzog Edinburgski" left Port-au-Prince for the Azores.

Second-class cruisers—"Djigit" left St. Thomas for the Azores, and "Kreiser" left Port Said for Naples.

*Personal.*—Count Loggin Heiden, who was present at the battle of Navarino on the 20th October, 1827, has just celebrated the jubilee of his service as A.D.C. to

the Emperor. Since 1895 he has been a member of the Council of State and Vice-President of the Committee for Aiding Invalided Sailors, that year being the 70th anniversary of his entry into the Service, and the 36th of his service on that committee. The Tsar has sent him as a mark of special favour the portraits of Alexander I., Nicholas I., the II. and III. Alexanders and his own, set in brilliants, with a hearty letter of thanks for his services.

The death has occurred at Kronstadt of the commandant, Lieutenant-General Vladimir Brylkin. He was born in 1832 of a good family in the Pskov Government, and joined the naval Service as midshipman in 1849. During the Crimean War he was attached to the Riga battalion of the flotilla, and distinguished himself on the 29th July, 1855, when an attack was made on the mouth of the Western Dvina by the 84-gun ship "Hawke" and the corvette "Desperate," which were repulsed. For this service he received the Order of St. Stanislaus, 3rd class, with swords, "for distinguished bravery." After various sea service, in 1883 he was appointed member of the Educational Section of the Technical Committee and Committee on Naval Education, and promoted rear-admiral in 1886. In 1887 he was appointed commandant at Kronstadt with the rank of lieutenant-general under the Admiralty. The deceased officer had a high reputation in the Service, and was extremely popular.

*Port Arthur.*—Accounts from Port Arthur declare that the mortality and sickness have largely diminished and were of a temporary character. Vice-Admiral Duhasov has had a naval club opened, which is in great favour, as is also the tea-house attached. The deepening of the eastern basin is approaching conclusion, and preparations have been made for deepening the western. The Chinese, who had fled when the place was first occupied, are returning, and are favourably disposed to the new masters of the place, and many are coming in from other parts. A theatre has been established for the especial benefit of the sailors and rank and file, which is mainly gratuitous. The parts are taken by the men themselves, but it is proposed to engage a permanent company. The first newspaper was to have made its appearance in April.

*Dockyard News.*—At the Admiralty Ijora Works the erection of a central electric storing-station has recently been completed, which is to be used in part for motor purposes. Ten Belleville boilers have been set up with a total grate area of 7,500 square feet, four steam dynamos of 79,200 watts, with a generative power of 220 volts, which will supply power to the armour and iron workshops. At present power is got from the Ijora River which gives 500-H.P., the fall of the water being from 21 to 25 feet. One of the old power wheels will be replaced by a new turbine on the Phoenix system, giving 45-H.P. at 250 revolutions.

The use of naphtha has also been largely increased. Thirteen Lancaster steam boilers and one Belleville are in use for the purpose. Two of the larger armour-casting furnaces have also been fitted for its use, allowing it to drop freely on the heated surface. Two cisterns with a containing capacity of 200,000 poods (1 cwt.) each have been already established.

Torpedo-vessel No. 114 has been told off for trials with patent fuel, and with this object her bunkers are being lined with zinc. It is proposed to adopt the mechanical method of pulverising the naphtha invented by Engineer Shchensnovich.

The three torpedo-boat destroyers, "Osetr," "Kefal," and "Losos," which are building at the Forges et Chantiers de la Méditerranée, are designed to have 26 knots at forced draught and 312 tons displacement. They will have two triple-expansion engines fed by four boilers of the Norman system, with 672·3 square metres of grate area. They are to cost 4,530,000 francs.

The first-class battle-ship "Pobieda" ("Victory") and the transport "Yenisei," were, on the 21st February, put on the stocks at the Baltic Works.

The former is sister-ship to the "Peresviet" and "Osliabia," differing from them only in a somewhat lower freeboard, and in not having a wooden and copper external sheathing. Her dimensions are:—Length at the load water-line, 425 feet; beam, amidships, 71 feet; draught on an even keel, 26 feet; displacement, 11,362 tons. Her armament and armour are precisely the same as those of her sisters.

She is the third ship that has borne the name in the Russian Navy, her predecessors being a 40-gun frigate and a 66-gun ship. The former took part in 1788 under the command of Lieut.-Commander Zaostrovski, when she formed part of the squadron under Rear Admiral Voinovich, in the engagement with the Turkish fleet near the island of Fidonisi, which was a victory for the Russians, in spite of the disparity of numbers. The second "Pobieda" took part in the following operations:—In 1798, blockade of the coasts of Holland by combined English and Russian squadrons; in 1800, with Admiral Ushakov's squadron, patrolling the Sicilian and Neapolitan coasts; in 1804, occupation by the Russian forces of the Ionian Islands; in 1810, with Rear-Admiral Sarychev's squadron cruising in search of the Turkish fleet in the Black Sea. On this occasion the Russians tried to bring the Turks to an engagement, but the latter escaped by superior speed and were not to be found again.

*Scientific Expedition.*—In May of the present year a Swedo-Russian Expedition for scientific purposes will proceed to the Spitzbergen Archipelago. The Russian officers taking part in it will be Staff-Captain Sergievski, Vinitiski, the zoologist, and Chernyshev, the geologist and mining engineer, who will proceed to Stockholm in the "Libau Icebreaker" and the "Bakan" to join the Swedish members. The expedition will differ from previous ones in the fact that it will winter at Spitzbergen, the Russian portion at the island of Edg , and the Swedish at Parry's Island.

An account given by Prince Golitsyn, on the 10th April, at the Naval Institution, of the proposed Russo-Swedish Expedition to Spitzbergen, sets forth that the objects are comprehensive, as besides the taking of latitudes and other geodesic work, observations and researches will be carried out in meteorology, terrestrial magnetism, hydrology, geology, and astronomy. Special interest attaches to the researches as to the animal life of the waters which wash Spitzbergen on the west and south, as the former are affected by the Gulf Stream. Photographs will also be taken of the Northern Lights, of which we have hitherto had only sketches. The lecturer of the expedition would not only advance science, but the economical and political welfare of Russia.

*Naphtha Fuel.*—A report on "Yarrow boilers as fitted in torpedo-vessels," read at the Society of Naval Engineers for the instruction of engineer students, with especial reference to the use of naphtha fuel, says that there are at present in use three kinds of pulverisation: steam, air, and mechanical. The chief defect of the first is the great expenditure of fresh water, which amounts to from  $\frac{1}{2}$  to  $1\frac{1}{2}$  of the proportional expenditure of "Mazut." As for the air burners they are little used, chiefly because of the difficulty of getting compressed air in sufficient quantities. The mechanical pulveriser does not necessitate the expenditure of either steam or air, but unfortunately they have not yet been sufficiently elaborated. Excellent results are, however, hoped for from one devised by Messrs. Shensnovich and Stupin, the latter an engineer-mechanic.

*New Sounding Machine.*—The chief assistant to the astronomer at Kronstadt, M. Shubin, has invented an electric lead, with trawl and bathometer, which it is hoped will lead to the avoidance of such disasters as that of the "Gangut." The chief objection to it is that it is more complicated

than the ordinary one, but as the latter has an interval between two measurements of from two to three minutes, and necessitates the slackening speed or stopping of the surveying ship, this is a serious defect. In order to ensure that the line shall be straight at the moment of measuring, the weight of the lead has been increased. The result is announced by an electric indicator on board as soon as the lead touches the bottom. An upper weight has to be attached, on account of the great friction of the lower weight at the moment of contact with the bottom, which prevents the spring of the indicators shutting off the current. The lead line has to be kept slightly ahead, and the lead is kept at a depth of from 10 to 12 feet from the bottom.

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*General.*—A great want is felt in Russia of proper charts. The home waters are, of course, thoroughly surveyed, but there is no proper account in their own language of other seas, especially of Chinese waters. So much so is this the case that captains and navigators who have been long voyages are of necessity appointed to fresh ships immediately on their return. The Central Hydrographic Office has, therefore, undertaken a manual for the guidance of ships from Kronstadt to Vladivostok. It is to be as brief as possible, and for all but the most essential points readers are referred to other manuals. The first issue will deal with winds, currents, tides, and the like, the second with the routes from Kronstadt to the Atlantic, both by the English Channel and the Northern course.

The River Amur is being surveyed with a view to a chart being made of it for navigating purposes, the portion at present under survey being that between the Pokrovski station and Khabarovka. The map is to be of a scale of 250 sajens (fathoms) to the inch, the 10ths of an inch and distances in versts being given. A map of the lower Amur will also be issued on a scale of an inch to the verst.

This year is the centenary of some notable exploits of the Russian Navy in the Mediterranean. As may be seen from Mahan, both Napoleon and Nelson regarded that Navy as a serious rival. In February, 1799, the Russians took the fortress of Corfu and 11 French ships surrendered to their admiral, Ushakov. They blockaded the shores of Italy from Otranto to Manfredonia. On the 3rd June they landed a naval brigade under Captain-Lieutenant Belli, and took Naples. The Emperor Paul, on hearing of this, remarked, "Belli thought to astonish me and all Europe, but I will astonish him," and made him a Knight of St. Anne of the 1st class, in spite of his subordinate rank.

The proposed reform of the American Navy on the lines of uniting the combatant and engineering branches gave rise to a discussion recently at the Society of Naval Engineers as to the desirability of a similar unification in Russia. The general opinion was that, desirable as it might be to put an end to the antagonism between the two branches, the proposal was not likely to be a satisfactory solution of the question. It would only lead to such a lowering of the status of the body of officers as would end in neither branch being as valuable as it is now.

It is proposed to connect the Island of Askold, which lies at the entrance to the Ussurian Gulf, with Vladivostok both by telegraph and telephone. There is a beacon there from which ships can be seen and any accident happening to them noted to a distance of 85 miles, and for war purposes it would be an excellent point of observation.

Vice-Admiral Verkhovski has been lecturing on "Means for Doubling the Radius of Action of our Ships," which is to be effected by greater economy in fuel. Defective boilers, engines, condensers, and many other causes lead, according to him, to the fuel being largely wasted. He proposes to replace the imperfect condensers of water by a specially constructed boiler which shall convey the steam direct to the main pipe of the engine.



A writer in the *Vičnik* discusses at length the question how far rifles, revolvers, and cutlasses are useful to seamen in the present day. With this is closely bound up another question, viz., ought men-of-war to be expected to furnish landing parties on any considerable scale for operations on shore? He points out that such a ship as the "Osliabia" out of a complement of 724 men would not have more than 306 combatants, and only 60 per cent. of these, 237 rifles, would be available, and what with manning the boats and larger guns, not more than 158 could be landed. As for torpedo attacks, riflemen would be useful by daylight, but unless very skilful their chance of hitting on a dark night would be infinitesimal. If two battalions were formed for naval brigade purposes out of the Pacific Squadron, the ships would be left without sufficient men to dream of fighting the guns, especially the Q.F. guns. Moreover, he considers that their ships have no officers at all to spare for such a purpose, and for operations at any distance worth mentioning there would be no means of transport, nor could a naval brigade be provisioned at any distance from the fleet. He thinks, however, that sufficient men might be landed to cover the line of communications of a land force. He contends also that it is very difficult to keep small-arms in good order on board ship and in climates where the dampness of the atmosphere is 80 per cent. He advocates, however, the arming of certain petty officers, the bandsmen, and boatswains, especially of launches, the crews of field guns, and a few others, with revolvers.—*Kronštidski Vičnik*.

## MILITARY NOTES.

### PRINCIPAL APPOINTMENTS AND PROMOTIONS DURING APRIL, 1899.

Major-General F. G. Slade, C.B., Royal Artillery, to be Major-General on the Staff to command the Royal Artillery at Gibraltar. Brevet Colonel Dalton, R.A., to be Assistant Military Secretary at Head Quarters, and to have the substantive rank of Colonel in the Army. Brevet Colonel E. O. Hay to be Assistant Adjutant-General at Head Quarters, and to have the substantive rank of Colonel in the Army. Brevet Colonel H. de C. Rawlins to be Colonel to command the 26th and 71st Regimental Districts. Brevet Colonel H. G. Dixon, C.B., A.D.C., to be Colonel to command the 25th Regimental District. The following Lieut.-Colonels to be Colonels :—H. T. P. Evans, half-pay; A. E. Chapman, R.M.L.I.; F. H. Johnson, A.S.C., and Frederic Gosset, R.E.; A. J. Nixon, R.A.; H. T. Lugard, R.A.; L. G. Fawkes, R.A. Lieut.-General Sir Gerald Graham, G.C.B., G.C.M.G., V.C., to be Colonel Commandant, Royal Engineers. Colonel J. B. B. Dickson, C.B., from Colonel on the Staff for Cavalry to be Colonel on the Staff to command the troops in the Straits Settlements, and to have the temporary rank of Major-General whilst so employed.

HOME.—The following Parliamentary paper has recently been issued by the War Office :—

"In great international wars the duties of the regular medical service of the Army are naturally considerably increased, and it is now not only generally recognised that voluntary aid, as a means of meeting this extra strain, is indispensable; but it is also most desirable that every facility should be afforded by the military and naval authorities for giving practical effect to the undoubted national sympathy with the sufferings resulting from wounds and disease of our soldiers and sailors engaged in war.

"The voluntary aid, however, which popular sentiment elicits, and which would be forthcoming in abundance from every corner of the Empire in the event of our country being involved in a great war, would come upon our military authorities in the form of a mass of more or less unorganised and untrained elements, probably so unsuited to the actual requirements of the Army Medical Service as, for a time at any rate, to considerably hamper and embarrass its administration. In the great Armies of the Continent much of this has been foreseen, and voluntary aid organisation, under National Central Committees of the Red Cross, has attained a high state of perfection, and is permanently kept in touch with the organisation of the Regular Army Medical Services in such a way as to enable the latter to know exactly the amount, nature, and conditions of the supplementary aid that will be available from voluntary sources in time of war.

"With the view of obtaining similar results in this country, Lord Lansdowne some time ago invited representatives of the National Society for Aid to the Sick and Wounded in War, the St. John Ambulance Association, and the Army Nursing Reserve, to meet the heads of the Army Medical Service at the War Office, and discuss with them the lines upon which a central organisation for bringing voluntary aid throughout the British Empire into touch with Army medical requirements might be created. As an outcome of this conference a Central British Red Cross Committee has been formed, and has now been recognised by the Secretary of State for War as the official channel through which offers of voluntary aid in time of war will be accepted by the War Office.

"As at present constituted it is composed of representatives of the above-named societies and of the War Office, Her Royal Highness Princess Christian of Schleswig-Holstein and Miss Wedgwood having kindly consented to act as representatives of the Army Nursing Reserve; Lord Wantage, V.C., Lord Rothschild, and Sir William MacCormac as representatives of the National Society for Aid to the Sick and Wounded in War; and Viscount Knutsford and Sir John Furley as representatives of the St. John Ambulance Association; while the War Office is represented by the Deputy Director-General (Surgeon-General Muir) and the Assistant Director (Lieut.-Colonel Gubbins, Royal Army Medical Corps) of the Army Medical Service, and by the officer in charge of Mobilisation Services (Colonel the Hon. F. W. Stopford, C.B.).

"Lord Wantage has been appointed Chairman of the Committee, and Major W. G. Macpherson (Royal Army Medical Corps) Secretary.

"The Committee are at present holding their meetings in the board-room of the Medical Division of the War Office, 18, Victoria Street, Westminster, and their efforts will first be directed towards the organisation of voluntary aid in time of peace, so as to facilitate its being placed at the disposal of the military authorities in the form which is most likely to meet the supplementary requirements of the Army Medical Service in time of war. It is hoped that ultimately the formation of this Central British Red Cross Committee will have the effect of bringing local committees of the societies which are, or may be, represented on the Central Committee and established throughout the Empire, into touch with the conditions which the military authorities must of necessity impose upon the popular desire to aid the sick and wounded. It is felt that throughout Her Majesty's dominions the resources of voluntary aid are very large, but that some organised effort is necessary in this country, to enable full effect to be given to the humane impulses upon which they are based, and to make them conform to the principles that have been formulated in the Geneva Convention under the emblem of the Red Cross."

It has been long very apparent to all soldiers, sailors, and explorers that there is a wide gulf between the theoretical and practical value of any given food material. Many officers have probably tried compressed and desiccated meats and vegetables, all of which were duly certified to contain analytically the due

proportion of albumenoids, etc., needed to satisfy the human animal, but always to find out that, whatever the books might say, the stomach declined to confirm their opinion, and ultimately even the meanest fresh killed village goat or dak bungalow fowl has proved a better working ration than all the freely advertised table delicacies.

As the result of experiments conducted during a long period, Mr. Lionel Gye (late Royal Artillery) claims that the crucial point really lies in the words "fresh killed," and that he has now perfected a process by which, without the admixture of any chemical whatever, his foods, whether fish, flesh, or fowl, remain for an indefinite time in a fresh *raw* state, so that when cooked and served at table, they contain exactly as much nutriment as at the instant at which normally the cook would have placed them before the fire.

Briefly, Mr. Gye does not "sterilise" but "insists" the germs in the matter under treatment, and that this may be so is shown by the statement that he has kept yeast—in itself merely a mass of bacteria—in a dried condition for months, and then by the addition of water, restored the fermenting process to full activity.

It is much in favour of the Gye system that Dr. Jeaffreson, in a report which has been published, states that he lived almost exclusively on these foods for a period of seven weeks during an exceedingly arduous march across Siberia, and in his forthcoming expedition to the Northern Polar seas he proposes to take nothing else with him.

Equally satisfactory reports as to its keeping qualities have been received from Burmah, West Coast of Africa (where the Congo Government is using it), India, and Australia.

As regards its portability, 600 rations go to the cubic foot and weigh about 70 lbs. Taking an average assortment of the foods soldiers or explorers would need, the reduction in weight would amount roughly to 90 per cent., while the economy resulting therefrom would be considerable, when it is considered that the Government, according to Mr. Chamberlain, is actually paying £134 a ton transport from the coast to the front in West Africa.

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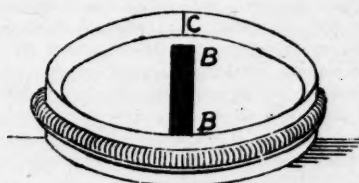
*Description of a Magnetic Compass, designed by Captain T. W. G. Bryan, R.A., for general use by day or night.*—The compass has a floating dial, and check and stop lever. It has an india-rubber friction ring on the base, and notches on the ring and lid for the purpose of placing it on a straight line on a map or sketch to "set" the latter. The dial (Fig. 1) is of aluminium. The inner circle is luminous, with 8 black lines on it, for the 8 principal points on the compass, each line being exactly the thickness of  $10^\circ$  on the circumference of the luminous circle. The glass (Fig. 2) is in a ribbed metal rim, which fits closely inside the compass box, and from which it can easily be removed by inserting the edge of a knife at the bottom of the ribbed portion of the rim. On the under side of the glass is a black line (BB), also of the thickness of  $10^\circ$  on the circumference of the luminous circle. The compass has a lid attached by a stiff hinge, and with a luminous bar for directing it on an object by day or night. On the inside of the rim which holds the glass is a black vertical line (C, Fig. 2), by which the bearing of the compass is read by day. Corresponding with this is a black line on the inside of the compass box, and graduations on either side of this, representing angles of  $10^\circ$  and  $20^\circ$  respectively, for setting the compass (if required) to compensate for local magnetic variation, by turning round the glass rim through the necessary angle. Thus Fig. 3 shows the compass set for a magnetic variation of  $15^\circ$  W. A bearing is taken at night in the following manner:—Hold the compass with the luminous direction-bar pointing to the object. Observe which of the 8 points of the compass the black line on the glass is nearest to. Then, looking at the nearest end of the line on

FIG. 1



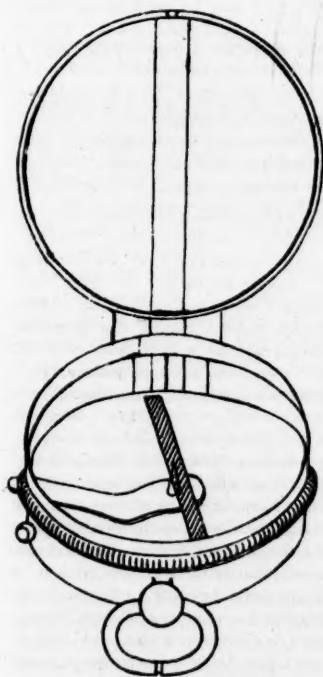
Plan of Dial

FIG. 2.



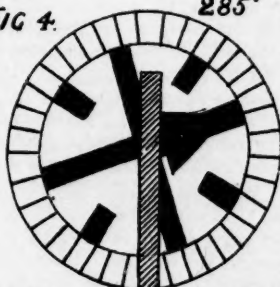
Elevation of Glass in  
ribbed rim.

FIG. 3.



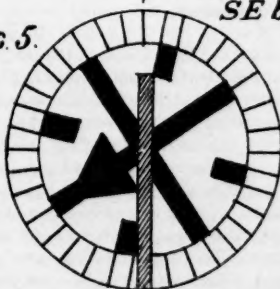
Compass set for a  
Magnetic variation  
of 15° W.  
(Dial removed)

FIG. 4.  
↑ Front.  
285°



(Figures not shown)

FIG. 5.  
↑ Front.  
SE by E.



Plans of Dial & Glass  
showing bearings  
taken at night.

the glass, note the exact angle it makes with the black line on the dial opposite to the above point of the compass. Both of these lines being the thickness of  $10^\circ$ , and the angle of the compass point being known, the approximate bearing of the object is ascertained. Thus Fig. 4 shows the dial and glass reading a bearing of  $270^\circ + 15^\circ = 285^\circ$ . The above may seem a complicated process, but in practice is easy enough. In a similar manner the compass can be used for night marching on a given bearing. I recently made a trial sketch with a compass on this design at night, pacing and taking bearings when the direction changed. I started from a point and returned to it by a circuitous route. Ten different bearings had to be taken, and 1,693 paces. I jotted down the distances and bearings on a piece of paper in the dark, and afterwards on plotting the sketch I found only 30 yards difference between the point of departure and the point of return on the sketch. The time in going over the ground was about half an hour. For use in the dark in the early morning, either the luminous parts of the compass should be exposed to the sun for half the previous day, or about 2 feet of magnesium wire (sold in coils very cheap) should be burnt close to them the previous night; 6 inches of wire would suffice if burnt just before using the compass.

The advantages claimed for this compass are:—

1. *Simplicity*.—There are only graduations for every  $10^\circ$ , and the decimal of ten can be judged by eye with sufficient accuracy.

2. *Clearness*.—The graduations are of such a thickness that the bearing can at once be seen. At dusk the approximate bearing can be read in the same way as at night, by the thick lines on the luminous circle and glass. The 32 points of the compass are easily read both by day and night. Thus Fig. 5 shows the dial and glass reading S.E. by E.

3. If the magnetic variation is known it can be eliminated and true bearings taken both by day and night. At night the magnetic variation can be eliminated or registered by directing the direction bar on the North Star when that star points to true North, and turning round the ribbed rim of the glass till the black line on the glass coincides with the arrow on the luminous circle.

4. With this compass military sketching by night and night marching can be done by directing the compass as by day, straight on the object. I believe that any slight degree of inaccuracy is more than compensated for, for practical purposes, by the ease and rapidity with which it can be used. In 1891, when Intelligence Officer with the Miranzai Expedition, I used a plain magnetic compass for all reconnaissance sketches, which had to be done at the pace the column was moving. Very accurate instruments are as a rule only required for surveying purposes. For ordinary military purposes, reconnaissance, etc., moderate accuracy is all that is required; but handy instruments and rapidity in work are essential.

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CANADA.—Major-General Hutton, at Toronto, described the Militia as being in a state of paralysis, and expressed his desire for an efficient National Army in its proper sense. That the Militia was correctly described by General Hutton there can be no question, but he failed to point out that the creeping paralysis was caused by the mode of staffing the Militia for the last thirty years. Ex-Army officers, who were not Canadians, and who left the Army for one reason or another, drifted to Canada, and were invariably selected for staff appointments in our Militia. There was no question of fitness involved, and these ex-Army officers, as a rule, continued to perform their duties much in the same way as they did in the Army. They remembered more or less of their Army knowledge—usually less, and were content to rest on that, and treat with disdain any changes or improvements that occurred in the Army from time to time which were applicable to our Militia. They had no enthusiasm for the force, and failed to impart to those under them the Army knowledge which they should have possessed. As a matter of fact, they acted as a “brake on the wheel of progress,” and considered



themselves very much over-worked and very much under-paid officials. They compared the rate of pay received by them with the rate of pay received by the Army officers holding corresponding appointments, forgetting that they would never have been selected for such appointments in the Army. Of course there were some notable exceptions, but they were few. It is only within the last couple of years that the Militia has been freed from that class of officer in staffing the Militia, and to-day every officer in command of a district is a Canadian by birth. It can be truthfully said that the present district officers commanding compare more than favourably with their predecessors. But the strangest and most disgraceful acts of maladministration by the Militia Department have been the appointment of Englishmen to the permanent force who never had even the advantage of an Army or any other training, and who go into the permanent force for "what's in it." It has not been sufficient to paralyse the Militia for so many years past by employing ex-Army officers regardless of fitness, but it is to be perpetuated by dumping into the permanent force untrained Englishmen who come to Canada and acquire a "pull." In the natural course of events such officers will aspire to staff appointments. That the paralysis from which the Militia suffers is attributable to gross maladministration there can be no doubt, and it remains for the Canadian people to say if it is to continue in the face of the enormous expenditure of money we have made, and are making, to maintain the Royal Military College for the express purpose of officering the permanent force and staffing the Militia.—*Canadian Military Gazette*.

INDIA.—Arrangements are now in progress to settle the proportion of men to be enlisted from each section of the Afridis to raise the Khyber Rifles to its full strength of 1,200 men. The corps will probably be divided into two battalions, with a limited number of British officers.

Experiments are being carried out in India with Millerained materials, for it is evident that if this new water-proofing process is successful, many advantages will accrue to troops on active service. Some trials were made in the recent cavalry manœuvres both with the ordinary service canvass tents and some of Millerained materials. The Northern Force experienced a good deal of rain in their earlier marches. After the rain the tents allotted to a unit were weighed. It was found that the ordinary service tent of 160 lbs. had more than doubled its weight, whilst the weight of the Millerained tents had only increased 15 lbs., each being originally of the same weight. This is obviously of very great advantage as regards transport. The Millerained tents were also found to be cooler by day and warmer by night than those of the old service pattern.

*Supply and Transport.*—In his lecture on "The Present Situation on the Indian Frontier," at the Royal United Service Institution on the 8th December last, Sir Richard Temple incidentally mentioned that the subject of Supply and Transport for a possible Russian invader had not been fully dealt with by any author publishing a book in his own name. Sir Richard desires to state that he was labouring under a mistake at the time, and that he has subsequently ascertained that that subject was, some time ago, fully and competently dealt with by Colonel H. B. Hanna in more than one publication.

AUSTRIA-HUNGARY.—The Establishment of Military Ballooning, its management, and the execution of its most difficult voyages, was, until a short time ago, almost entirely in the hands of officers of Pioneer Regiments, and of officers of the Railway and Telegraph Battalions. In the year 1898, however, officers of the Garrison Artillery were allowed for the first time, to participate in a ballooning course, as the duties of Garrison Artillery in war will, in future, greatly depend on the results gained by ballooning detachments in fortified places. Now, however, after an adequate number of young officers of the Scientific Corps have been trained, officers of all branches of the Service will, next term, be ad-

mitted to take part in a course of military ballooning; the Minister of War has therefore notified to units of all branches of the Service to make a note of the names of those young officers who may volunteer to undergo a course of ballooning. The applicant must have at least three years' service, two years as an officer, ability to sketch, robustness of body, gymnastic dexterity, a keen eyesight, the ability to rapidly locate himself are amongst the chief essentials. The weight of the body must not exceed 13 stone.—*Militär-Zeitung*.

**BELGIUM.**—The Minister of War has just published the results of the musketry for 1898. The 33,817 infantry soldiers who took part in all the firing are classified as follows:—

8,567 first-class shots, or	...	...	...	19.5 per cent.
17,480 second "	"	"	...	51.8 "
8,839 third "	"	"	...	25.9 "
931 not classified	"	"	...	2.8 "

The classification is determined by the results obtained at field firing. Each soldier fires forty rounds. If he succeeds in hitting at least sixteen times, he is a first-class shot; from eight to fifteen times, a second-class shot; less than eight hits, a third-class shot. The "not classified" are men who have not completed four field-firing practices. Those who failed to complete four practices are classified in proportion to the shots fired. The field practices have eight phases of five shots each, the figures representing war conditions according to the following table. They were carried out at the camp at Beverloo. The dress was field service order with fixed bayonets.

Phase.	Distance.	Position.	Object.
1st	200 metres	Standing	At a man standing.
2nd	300 "	Kneeling	Do. do.
3rd	400 "	Lying down	At three men standing.
4th	500 "	Any position	Do. do.
5th	600 "	Any position	Do. do.
6th	200 "	Kneeling	At disappearing head and shoulders target.
7th	300 "	Kneeling	Do. do. do.
8th	300 "	Standing	At three men standing.

This last practice is with rapid firing in thirty seconds. The soldier charges the magazine with two cartridges, and then makes use of the loader filled with three cartridges.

The following is a table showing the different kinds of infantry musketry and the cartridges expended in each:—

Employment of the Ammunition.		Cartridges allowed.		
		Recruits 1st year.	Old soldiers 2nd year.	Men on furlough called up.
School firing	{ Preparatory firing	15	5	10
	{ Instructional	40	40	—
Field firing	{ Individual	40	40	40
	{ Collective	35	35	35
Garrison firing	...	20	20	—
Total		150	140	85

There are besides experimental and other shooting, and meetings for which 700 cartridges per company are allowed, and shooting matches for which each regiment is allowed 1,000 cartridges.

The following is the supply of small-arm ammunition taken into the field for infantry, and is based on a calculation of 220 rifles per company :—

Cartridges carried by the man	...	...	...	...	120
In the company wagon	...	...	...	...	15
In the battalion ammunition wagon	...	...	...	...	30
In the ammunition column	...	...	...	...	97

Total rounds per rifle ... .. 262

Each ammunition column carries 564,480 cartridges. This number of cartridges will probably be increased.—*Revue Suisse Militaire*.

FRANCE.—France has at the present time for service in siege, land, and coast defence, 112 foot artillery batteries, of which 105 are quartered in France itself; these are divided into 18 foot artillery battalions, consisting of from 3 to 9 batteries. Seven foot artillery batteries are stationed in Tunis and Algiers, and belong partly to the 13th and partly to the 14th Artillery Regiments.

The present stations of the staff of the 18 foot artillery battalions are as follows :—

Lille	...	1st Foot Artillery Bn., consisting of 6 batteries		
Maubeuge	...	2nd	"	5 "
Reims	...	3rd	"	6 "
Verdun	...	4th and 5th	"	6 " each
Toul	...	6th	"	9 "
Langres	...	7th	"	5 "
Epinal	...	8th	"	6 "
Belfort	...	9th	"	6 "
Besançon	...	10th	"	6 "
Lyon	...	11th	"	7 "
Briançon	...	12th	"	6 "
Nizza	...	13th	"	5 "
Bayonne	...	14th	"	5 "
St. Servan	...	15th	"	3 "
Rueil (nr. Paris)	...	16th	"	9 "
Toulon	...	17th	"	5 "
Brest	...	18th	"	4 "

In accordance with the law of the 6th of January, 1890, the 8 mountain batteries in Algiers and Tunis will be transformed into field batteries. The present strength of France in field artillery is as follows :—

430 field	} batteries quartered in France.
14 mountain	
52 horse artillery	
12 field batteries in Algiers and Tunis.	

These make a total of 508 field, mountain, and horse batteries, which are divided into 40 artillery regiments (20 brigades). Of the 430 field batteries, 390 are armed with Q.F. guns and 40 with howitzers.—*Mittheilungen über Gegenstände des Artillerie- und Genie-Wesens*.

The *France Militaire* announces that a remarkable proof of endurance was lately given by two officers of the 14th Dragoons, in a reconnaissance ride, which was carried out under the following idea :—

"Two officers are sent from Sedan towards the south, in order to reconnoitre the reported assembly of an enemy on the Meuse between Verdun and St. Michiel.

On their arrival in the neighbourhood of Verdun they find all the roads effectively guarded by the enemy's outposts. Owing to the impossibility of continuing on horseback they leave their horses at a farmhouse, and proceed on foot, accompanied by a guide, by footpaths through the woods, and are able to verify the presence of large forces at Génicourt. Furnished with this information, they regain Verdun, still on foot, take again to their horses, which will have had some hours' rest, and leave immediately to report what they have seen."

This remarkable forced march was executed as follows:—

*From Sedan to Verdun*, on horseback; the road very rough, 50½ miles; journey completed in 7 hours and 20 minutes, viz., from 1 p.m. to 8,20 p.m. Rested for 1 hour and 15 minutes.

*From Verdun to Génicourt, and back to Verdun*, on foot, 22½ miles; done in 6 hours and 10 minutes, viz., from 9.35 p.m. to 3.45 a.m. Rested one hour.

*From Verdun to Sedan*, on horseback, 50½ miles; completed in 8 hours, viz., from 4.45 a.m. to 12.45 p.m. Thus, in less than 24 hours, 123½ miles were traversed, of which 101 were on horseback, and 22½ on foot.

The following military race meeting, to be held at Nancy, is announced in the *Revue de Cavalerie* for the months of May and June:—

#### CONCOURS HIPPIQUE DE L'EST.

At Nancy. Parc de la Pépinière, from Monday, 29th May, to Sunday, the 4th June, 1899. Military Meeting. Prizes consist of Gold Medals.

Officers' chargers borne on the roll of regiments quartered in the district, and ridden by Officers of the Cavalry of the Line, of the Reserve, of Light Cavalry, or special branches of the Service, on the Active List, in uniform, and belonging to these regiments.

#### PRIX DES RÉGIMENTS.

*Twice round the course, at least eight obstacles.*

##### 1st Section.

Horses ridden by Officers of the Cavalry of the Line, of the Reserve, or special branches of the Service, on the Active List, in uniform. Five prizes, value 100frs. each ... .. 500frs.

##### 2nd Section.

Horses ridden by Officers of Light Cavalry. Five prizes, value 100frs. each, 500frs.

Total ... .. 1,000frs.

*The President and Committee have the power to transfer prizes from one Section to the other, according to the number of horses starting.*

#### PRIX DE CIRCONSCRIPTION.

*Three times round the course, at least twelve obstacles.*

Four prizes, value 200frs. each ... 800frs. Four prizes, value 100frs. each ... 400frs.

Total .. ... 1,200frs.

#### PRIX COUPLÉS.

*Twice round the course, at least nine obstacles.*

Four prizes, value 200frs. each ... .. 800frs.

#### PRIX DE CONSOLATION.

*Three times round the course, at least twelve obstacles.*

Officers' chargers borne on the roll of regiments quartered in the district, who have not taken a prize in the meeting, and ridden by Officers of the Cavalry of the Line, of the Reserve, of Light Cavalry, or special branches of the Service, on the Active List, in uniform, and belonging to these regiments.

Four prizes, value 100frs. each ... .. 400frs.

Grand Total ... .. 30 prizes, value 3,400frs.

GERMANY.—The following details of the new German Q.F. gun are taken from the *Revue d'Artillerie* and the *Internationale Revue über die Gesamten Armern und Flotten*. The gun itself is of nickel steel. The mechanism of the breech consists of a flat horizontal wedge, which is provided with an interior mechanism, which acts on the striker, cocking it automatically when the breech is opened. The breech opens by making the wedge slide to the right, which facilitates the loading, which, as everyone knows, is done from the left of the breech. The lanyard is hooked on to a ring on the breech block before the first shot is fired, and remains hooked while the gun is in action. The projectile is introduced from behind, following the axis of the gun. When the breech is opened the cartridge draws back automatically and is extracted by hand. The gun has no side trunnions, but has a vertical pivot underneath which fits into a cradle, and is attached by trunnions to the carriage. The recoil of the gun, Model 96, is in reality, checked by a rope brake, analogous to the *Lemoine* brake, and by a spade, which folds on to the trail when not in use. When in use the trail is lifted and the spade folded down. To the right arm of the spade a chain is attached, which, when the spade is folded down, is hooked to the right bracket. On the right of the gun are one set of tangent sights, and these remain on the gun during firing. The explosive is contained in a brass cartridge case, and is used in sticks resembling cordite. A shrapnel and a high-explosive shell are the only projectiles used. They are about the same length and weight. The shrapnel is of steel, has a base charge, and contains 300 bullets. A double-action time fuze is used, graduating from 400 to 5,000 metres, and is carried complete in the shell. Besides the guns, the battery includes, as formerly, nine ammunition wagons, two battery wagons, one forage and one ration cart. The ration cart is drawn by two, the forage wagon by four horses. The total ammunition supply of the battery is 1,008 rounds, of which 216 are carried in the gun limbers, or 36 per limber, viz., 88 per wagon. There thus remain for the contents of the nine ammunition wagons 792 rounds. The ammunition is packed in the limbers and wagons in baskets, each basket containing four projectiles.

Principal details of gun :—

Calibre ... ..	3.02 inches.
Length ... ..	6 feet 10 inches.
Number of grooves ... ..	32
Weight of gun and carriage ... ..	17 cwt. 76 lbs.
Weight of shrapnel ... ..	15 lbs.
Number of balls ... ..	300
Weight of charge ... ..	1.28 lbs.
Muzzle velocity ... ..	1,511 feet per second.
Number of rounds per minute ... ..	5

The *Kölnischer Gazette* states that the German Governor at Kiao-Tschau is about to try to form a Chinese Corps at Tsintau. Only one company, with an effective of 100 men, will be at first formed, and, if this succeeds, a battalion will be raised. The results hitherto obtained by German instructors charged with the military instruction of the Chinese under the most unfavourable conditions, allows one to hope, says the *Gazette*, that this trial will be crowned with success.

The *Allgemeine Militär-Zeitung* announces that the aluminium navigable balloon, invented by Count Zeppelin, will probably make its first ascent in the beginning of July. This ascent will take place above Lake Constance, because experts are of opinion that experiments will be made under the most favourable conditions above a large sheet of water, taking, above all, into consideration the



atmospheric currents. The office of the contractors and other necessary buildings for the preparatory works are being built at Marzell, near Friedrichshafen, and united to that spot by telephone. In order that the balloon may not be impeded on its departure by either trees or buildings, a large stand of about 70 metres in circumference, from which the aerostat will ascend, has been constructed in the middle of the lake on pontoons. The works are sufficiently far enough advanced for the ascent to take place at the date mentioned.

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The distribution of the recruits' contingent for 1899 has been fixed as follows:—

*a.* Infantry regiments will receive 890 recruits, rifle battalions 238, field artillery regiments 528, regiments of foot artillery 519.

*b.* Cavalry regiments with an augmented effective will each receive at least 160 men, those of a medium or reduced effective at least 150.

*c.* Each detachment of mounted infantry will get at least a third of its budget effective.

*d.* Horse batteries with an augmented effective will receive at least 32 recruits, those of a medium effective at least 30, those of a reduced effective at least 25.

*e.* Pioneer, railway, and military train battalions, where the service is for two years, will receive a number of recruits equal to half the budget effective, deduction being made of the re-engaged men; military train battalions, where the service is only for one year, will receive a number of recruits equal to its budget total effective.

*f.* Artificers, classified as non-combatant, will be distributed, as follows:—7 to each infantry regiment, 6 to each cavalry regiment, 3 to each rifle battalion, 12 to each field artillery regiment, and 6 to each regiment of foot artillery.

*g.* The supplementary number of recruits to be enrolled to fill gaps from various causes, death, discharge, etc., is fixed at 9 per cent. of the normal number of recruits assigned to each unit. The enrolment will take place in October, at dates to be fixed by the Minister of War. For cavalry recruits, however, the dates of calling out will be fixed by commanders of army corps as soon as possible after the return of troops to garrison at the expiration of the Grand Manœuvres.—*Bulletin de la Presse et de la Bibliographie Militaires.*

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The following interesting article on the advantages of the five-squadron system has recently appeared in the *Neue Preussische Zeitung* from the pen of a distinguished cavalry officer, General von Pelet-Narbonne:—

"A short time ago the Press announced a modification of the military organisation. The fifth squadron of all regiments of cavalry were to be used for the formation of new regiments of 4 squadrons each; this formation would thus become general. The news has not been verified—fortunately, for its confirmation would have meant nothing more or less than the ruin of our cavalry. All that King Wilhelm I. and his Minister, von Roon, did to ensure the fitness for war of our cavalry, by decreeing the celebrated organisation of 1859-60, would have been at once destroyed. The ancient and deplorable custom of instigating the weakening of that arm at the very moment one wished to make use of it against the enemy, would have been brought in once more. We should have obtained the result that our cavalry, perfectly organised, and as such superior to the hostile cavalry, would have become inferior to it. Let us consider what follows:—There are 405 squadrons, 170 of which include 133 horses, and 235 squadrons have 137 on a peace footing. The effective war strength is 150 horses. To compete this effective, squadrons must therefore receive respectively 17 and 13 horses. In

default of the fifth squadron, which is broken up in the event of a mobilisation, and gives its trained horses to the service squadrons, the number of requisitioned horses (of far less use, because they lack training and are unaccustomed to the saddle), would be considerable. In fact, the reinforcement would not be limited to 17 or 13 horses per squadron. The service squadrons could not take their last remounts, to the number of about 15, with them, these last being too young to be completely made, and not in a fit state to endure strain. The events of the last war have proved that the great part of these young horses succumb very readily to fatigue.

"Let us consider the most favourable circumstance for a mobilisation in the month of May. In this case, a judicious selection enables one to keep in the service squadrons at most 8 out of 15 remounts; the rest would be sent to the reinforcing squadron with a view to rejoining later. To proceed otherwise would only result in the useless sacrifice of young and valuable mounts. The unavailable horses must be replaced; this brings the number of supplementary horses to 24 or 20 per squadron. But this number must be increased by 8, the reinforcing squadron having to receive at least 32 old horses for the instruction of recruits. Finally, one may count on 2 horses per squadron being required for carriages and for staff orderlies. The result of these calculations is that the service squadrons must take the field with 34 or 30 supplementary horses.

"Those who lived to witness the mobilisations taking place before the formation of the fifth squadrons know what the result was of the incorporation of such a large number of requisitioned horses. The squadrons could not be recognised. All evolutions in close order were impossible; these horses crowded in the ranks, kicked, did not keep their dressing, and caused complete disorder. The greater part of them would not march singly.

"Fortunately, the greater number of these horses died in consequence of the first great strain, or were galled to such an extent by the saddle, to which they were unaccustomed, that they had to be sent back to the dépôt. All loss of this sort tended to the recovery of the troop, which naturally soon regained its cohesion.

"These unfavourable conditions did not exist formerly to the same extent as nowadays. War broke out a long time after the order to mobilise, troops marched for whole weeks before reaching the theatre of war, and there too the commencement of hostilities often dragged on for a long time. All these circumstances allowed squadrons to train the reinforcing horses a little and to accustom them to fatigue. Now cavalry regiments reach the frontier by rail to proceed, immediately they detrain, on some duty requiring a march of from 50 to 60 kilometres. One may imagine what would become of these requisitioned horses! And the unfortunate riders of these mounts! It requires a superhuman courage to approach an enemy with a horse on which one has no reliance.

"Far otherwise is the position with 5 squadrons, of which one serves as a reinforcement. Deduction made of 35 horses for the recruits and 7 young remount horses, the horses available for this reinforcing squadron, to the number of about 91, are drafted into the 4 service squadrons. Each of these then receives 23, in such a manner that their being placed on a war footing only requires a further increase of 11, 7, or 4 requisition horses over the peace establishment.<sup>1</sup> These numbers do not affect the state of the squadrons, as these horses may be employed at the rear, as harness horses or as baggage escort.

<sup>1</sup> Take a squadron with an effective of 140 horses, 2 are given to the service of the staff, 7 remount horses and 8 for recruits are drafted to the reinforcing squadron—total 17. On the other side, the service squadron receives 23 horses from the reinforcing squadron; and this only makes the former require 4 requisitioned horses to bring it to war establishment ( $140 - 17 + 23 + 4 = 150$ ).

"The great advantages of the 5 squadrons are thus plainly visible. Even admitting a slight difference in these calculations, they enable one nevertheless to come to a rational judgment. To go back to a trial of the other organisation is objectless, for the experience of war has already practically pronounced in favour of the system since the formation of the 5 squadrons by King Wilhelm I. The archives of the War Department furnish proofs of it. That an increase of cavalry is desirable, everyone who knows the Army is aware of; especially as there has been no increase of this arm for more than a generation, deducting a few squadrons of light cavalry. May this augmentation, of which the Reichstag should have no doubts, be accomplished without touching the well-tried organisation of this arm!"

ITALY.—The Minister of War has decided that the troops will execute the following manœuvres during the year 1899.

*Grand Manœuvres.*—The 1st and 2nd Army Corps, a division of cavalry, a division of mobile Militia formed from four infantry regiments, and two battalions of Bersaglieri, will take part in these manœuvres, which will take place, from the 28th August to the 8th September, in the district of the 1st and 2nd Army Corps (Turin and Alessandria).

*Field Manœuvres.*—In the army corps which do not take part in the Grand Manœuvres, arrangements will be made for field manœuvres from the 28th August to the 8th September, with the exception of Sardinia, where the date for these exercises is fixed for the 28th May to the 8th June.

*Siege Manœuvres.*—Later instructions will be issued for these manœuvres, which will begin on the 1st August, and end on the 23rd of the same month.

*Cavalry Manœuvres.*—Regimental and brigade field movements in the 3rd, 5th, and 10th Army Corps during the month of September, lasting fifteen days. The 2nd, 6th, 17th, and 23rd Cavalry Regiments will form a division, which will take part in the Grand Manœuvres; this division will first assemble at the camp at Cameri (7 kilometres from Novaro) on the 16th August, and will manœuvre there till the 27th. In the second fortnight in August, the 13th, 14th, 16th, and 22nd Cavalry Regiments will form opposing sides, and will take part in scouting exercises in the district of the 9th Army Corps (Rome).

*Army Corps Cadre Manœuvres.*—In the 1st, 3rd, 6th, 8th, 9th, and 11th Army Corps.

*Cadre Siege Manœuvres.*—In the 4th and 5th Corps, under the superintendence of officers of the 3rd and 7th Corps.

*Cadre Cavalry Manœuvres.*—In the 5th Corps, for the 4th and 5th Cavalry Brigades.

*Rides.*—A staff ride, under orders given by the Chief of the Staff; a cavalry instruction ride in the first days of May, under the supervision of the Inspector-General of that arm. During the year 1899 about 92,000 Reservists will be called out for periods of instruction, varying from 20 to 30 days.—*Revue du Cercle Militaire.*

The invention of a pneumatic boot by Mr. Del Fabro consists in applying an india-rubber tube in the shape of a horseshoe, the arch corresponding to the heel, to the inner and back part of the sole. The two ends of the tube are open, and the top of the arch is pierced by a hole from outside. These three apertures communicate directly with the exterior by means of a passage made in the stiffening of the boot. The tube is separated from the sole of the foot by a light sole pierced with holes about the middle. It is easy to see the working of the system.

At each step a vacuum is produced, followed by the expulsion of the air between the two soles.

Captain Pellerano, of the artillery, who has experimented with the pneumatic boot, allows it the following advantages, in an article published in the *Rivista di Artiglieria e Genio*: 1. It prevents the perspiration of the feet by a constant draught. 2. It eases the walking on a hard soil. 3. It acts as a spring, and thus facilitates the movement of walking.—*Bulletin de la Presse et de la Bibliographie Militaires.*

JAPAN.—The following notes on the Japanese Army are taken from the *Revue du Cercle Militaire*.

Compulsory military service for all was introduced into the Army and Navy by virtue of a law promulgated in Japan in 1875. By this law, every Japanese is liable to compulsory military service between the ages of 17 and 40 years.

The obligation to serve in the Active Army commences on the 1st January of the year in which the conscript attains the age of 21. The duration of the service is as follows:—

Three years in the Active Army.

Four years in the Reserve.

Five years in the Landwehr.

Eight years in the Landsturm.

All young men between the ages of 17 and 20 years form part of the Landsturm, as well as men liable to military service according to their age, but who were not incorporated in the Active Army, the Reserve, or the Landwehr.

Those young men who, having undergone courses of instruction in certain schools, possess a superior education, or have undergone a special examination, serve as volunteers for one year, either in the Active Army or Navy, with the obligation of keeping and dressing themselves at their own expense. It is from these one-year volunteers that officers for the reserve are recruited.

Owing to financial reasons the Government is obliged to content itself with a very modest peace strength and a small number of units, which are far from being enough to incorporate all the men known as fit for service. The result is that a comparatively small portion of men fit for service can be called out, that is to say about 60 per cent., including the Army and Navy. They have therefore been obliged to select men for service by drawing lots, those drawing a good number pass at once to the Landsturm without receiving any military instruction, or else remain at the disposal of the Government. To increase the number of men for enrolment the effective budget has been increased yearly, as follows:—

The annual budget 1894-95:—2,806 officers, 6,224 non-commissioned officers, 54,004 men.

The annual budget 1895-96:—2,950 officers, 6,360 non-commissioned officers, 56,500 men.

The annual budget 1896-97 and 1897-98:—3,128 officers, 6,538 non-commissioned officers, 77,683 men. These effectives at the end of 1897 were divided amongst the following units:—

28 infantry regiments, of which 4 are Guards, with 3 battalions of 4 companies.

7 regiments of cavalry, of which 1 is Guards, with 3 squadrons each.

7 regiments of field artillery, 1 being Guards, having each 3 groups of horse batteries, and 1 group of mountain batteries, each group consisting of 2 battalions of 4 guns.

7 battalions of pioneers, 3 companies each.

7 battalions of military train, 2 companies each.

4 regiments of foot artillery of 3 batteries of 4 companies each.

The number of the effectives continually increasing, and the number of the actual units remaining the same, it has resulted in the budget effectives of these

last becoming higher and higher, especially in the infantry and foot artillery. In 1897 the field batteries had usually 6 guns and 80 horses. The battalions of infantry and foot artillery had at that same time 660 to 680 men. Thus the Japanese increased their effectives so as to be able to augment the numbers of their Army units.

The Army is at the present time split up into 7 divisions. Each division represents one autonomous unit from a strategic as well as from an administrative point of view, and includes :—2 infantry brigades of 2 regiments each, 1 cavalry regiment, 1 regiment of field artillery, 1 battalion of pioneers, and 1 battalion military train.

There is 1 Guards division and 6 Line divisions, numbered respectively from 1 to 6. According to the provisions of the budget for 1898-99 two fresh divisions will be formed by borrowing from existing units and enrolling a larger number of recruits. There will thus be formed 24 infantry battalions, 6 squadrons, 12 batteries, 2 battalions of pioneers, and 2 battalions of military train. The total effective of the Permanent Army will thus be brought up to 90,000 men, including non-commissioned officers. The Japanese Government intends, in the next few years, to raise the number of divisions to 13, of which 1 will be the Guards division, so that in 1901 the effective of the Active Army should have nearly doubled itself, and will consist of 6,500 officers, 13,000 non-commissioned officers, and 150,000 men, divided amongst 156 battalions, 39 squadrons, 78 batteries, a corresponding number of pioneers and military train.

Two of these divisions will be grouped to form an army corps; the Army on a peace footing will thus consist of :—1 Guards division and 6 army corps. The field artillery will be sufficiently augmented to allow of each army corps having at its disposal a regiment of 6 batteries as corps artillery.

The recruiting organisation has as its base the division of the country into six territorial areas, which are transformed into army corps districts. These last are again divided into brigade sub-divisions, which in their turn are once more divided into four battalion districts (analogous to the German Landwehr districts), and which are, correctly speaking, the real medium of the recruiting service. The Guards division is not relegated to any particular recruiting district; its effective is completed by men chosen from the Line, who have at least six months' service. But, in future, this system will be replaced by the same system that is in vogue in Germany. The troops of the islands of Jesso and Tsushima have their own special recruiting areas.

The staff is recruited as in Germany. The officers intrusted with the survey are exceedingly able men; not only have they executed an excellent topographical map of the whole of Japan, but they also, from 1890 to 1893, brought out a very good map of Corea, which was of the very greatest service in the war of 1894-95. At present they are executing a survey of Formosa.

The military schools have been re-organised on the German model. The War Academy at Tokio contains from 150 to 160 lieutenants, belonging to all arms, and is perfectly capable of instructing its pupils, not only in the higher military sciences, but also in practical staff duties. In any case, the Japanese officers, who on leaving the Academy at Tokio follow a course of instruction in the German Army, have a thorough knowledge of their work, and often show very great intelligence. Besides the Academy at Tokio, there are several other military schools, such as the Artillery and Engineer School, the Military Medical School, Musketry and Shooting Schools for infantry and artillery, Riding Schools, Gymnastic Schools, etc.

The recruiting of officers for the Active Army is pretty much on the same lines as in Germany, either by enrolling pupils from the cadet corps, or by accepting young men in the higher ranks of society, who after having successfully



undergone a course at certain schools are subjected to an examination before a Board.

The recruiting of non-commissioned officers is difficult. Although primary instruction is legally obligatory throughout Japan, the action of this law has not yet been sufficiently felt, and the majority of recruits enrolled each year can neither read nor write. In future, N.C.O.'s will be recruited for the most part from the school for non-commissioned officers. This school, where the course lasts two years, receives pupils for all branches of the Service. Two new similar schools will be very shortly established. Non-commissioned officers are also recruited from amongst men of three years' service, who, having shown a certain aptitude, may be made N.C.O.'s for the year, and they afterwards, for the most part, remain with the colours as re-engaged men.

The troops are equipped in the European manner on the model of the French Army. The infantry, in the late war with China, had the Mourata rifle of 11 millimetres; it is a repeating rifle and is very like the German Mauser rifle, Model 71. The results this rifle gave were good. Immediately on the conclusion of peace the manufacture of the Mourata rifle, Model 94, was begun in Japan. It is a Q.F. rifle, with a calibre of 7 millimetres, with loaders for five cartridges. Since the year 1896 all the troops quartered at Formosa had received this rifle, and the whole of the Active Army is, as a matter of fact, now armed with it. The Japanese Government hope to be able to expedite the manufacture of this rifle so that the whole of the reserve may have it during the present year. The field artillery is armed with a 3-inch rifled gun, which resembles the new French artillery gun in its construction and its effects. The mountain gun is of the same calibre as the field, but is shorter, lighter, and has a more limited range. As to the heavy artillery (siege, fortress, and coast), it has now entirely got rid of its old *matériel*, and possesses not only a great number of modern guns of large calibre, but also rapid-firing guns on armoured gun carriages. Great works for coast defence, armed with strong modern batteries, have, during the last few years, been constructed at Kure, Sasebo, Nagasaki, Maizurei, Hakodate, and Tsushima. The expense of these works amounted to 5,000,000 francs.

The cavalry has been recently armed with the Mourata carbine, Model 94. The regiment of Guards Cavalry is armed with the lance, and it is a question whether that weapon should not also be given to regiments of cavalry of the Line.

The troops are instructed in accordance with German regulations, which have been almost literally copied.

For some years the Japanese Army has executed brigade, division, and even army manoeuvres, in which the reservists take part. In 1897 the autumn manoeuvres took place at Kiou-Chou in the presence of foreign military *attachés*. The Russian journal *Novoié Vremia* published the following interesting account of these manoeuvres:—

"The Japanese troops have a good demeanour; their battle formations, their discipline, and their aspect recall the Prussians, whose lessons they have learnt well. The Japanese soldiers look like intelligent children, who know they have worked well, and expect to be praised. The infantry is very mobile: they forded the rice-marshes manfully, they stormed the steep heights with smartness, but they soon tired, and then required a long rest. A certain jumpiness was observable among the chief officers and among the soldiers, and it is to be feared that during a campaign, in the event of a reverse, both would be easily discouraged. The artillery was well horsed and manoeuvred. The cavalry, on the contrary, with its small horses, both bad and neglected, created an unfavourable impression, and is greatly inferior to the Cossacks."

One knows little about the mobilisation and war formations of the Japanese Army, but it is probable that at the commencement of a war the Army would be divided into 13 divisions of from 13,000 to 14,000 men each, provisionally completed from the reserve field divisions. But from 1899 the 13 divisions will all

be active divisions. If we suppose a case where the Japanese Army would be compelled to mobilise as it is at present, the Army would be thus divided :—

- 1 Guards division.
- 8 Line divisions.
- 4 Reserve divisions.

This would correspond to an effective of 175,000 men, of which 100,000 would belong to the Line and 75,000 to the Reserve. In proportion as the scheme for the increase of the Army is put into execution, these 75,000 men would disappear from amongst the army for the field, to form the nucleus of a reserve army. This latter, composed of drilled men of the Landwehr, may be calculated at 10 divisions, consisting of 130,000 men, so that in 1899 the total strength of the mobilised forces would amount to a little more than 300,000 men. Besides these masses, they intend forming a *depôt* battalion squadron or battery, to each mobilised regiment. The actual defence of the country would be entrusted to a levy of the *Landsturm*, whose numbers would vary according to requirement.

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ROUMANIA.—The modifications of the law regarding the command and organisation of the infantry, necessitated the re-organisation of the territorial commands of Militia battalions. The details of this re-organisation were fixed in 1898 by a Ministerial note defining the powers of the *personnel*.

The country is divided into 35 Militia regimental districts, corresponding to the 35 recruiting districts for the infantry of the Line. Formerly there were only 32 Militia regiments, the organisation of which was provided for in Moldavia and Walachia. According to the new organisation Dobroudja will also supply two regiments, the 33rd at Tulcea, and the 34th at Constansa. The Militia of these two regiments took part, for the first time, in the autumn of 1898, in a period of training of 10 days. Finally, the 35th Regiment of Militia (Botosani) corresponds to the 35th Regiment of the Line recently formed.

The commander of each territorial district of the Militia regiment is the officer commanding the infantry regiment quartered there. The regimental district is divided into two districts, for Militia battalions, commanded by retired officers. The battalion district is divided into four company districts containing a certain number of parishes under the supervision of a rural garrison commander.

The instructions lay down that the officer commanding the regiment has supreme authority over the commanders of the territorial Militia regiments, he uses them as the intermediaries for carrying out everything concerning recruiting, mobilisation, requisitions, and the policing of the military district. The commanders of Militia territorial battalions have under their orders, from a military point of view :—

- 1. The rural garrison commanders.
- 2. Men of both Services residing at their homes.
- 3. Men freed from service with the colours, but belonging in some way or other to the Army.
- 4. Those exempted from service but liable to military law.

They must carry out half-yearly inspections of the recruiting service, requisitions, the administration of the reserves and the Militia ; the reports on these inspections are addressed to the officer commanding the infantry regiment.—*Revue Militaire de l'Étranger*.

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RUSSIA.—In February last the Chief of the Staff issued the following circular : "The attention of the Minister of War has been drawn to the fact that a large number of officers of the general staff content themselves with commanding a company or a squadron (without commanding which they would not be promoted lieut.-colonels), and that they pass the rest of their career on the staff or in offices, without gaining further knowledge of, and without renewing their acquaintance with, regimental work.

"Such a situation appears to be altogether abnormal to the Minister of War. He directs that officers of the general staff shall, with rare exceptions, prepare themselves to exercise the military duties of superior officers; these duties demand, from those who aspire to exercise them, administrative faculties, a thorough knowledge of practical duties and of regimental interior economy. As a consequence, the systematic alternation of regimental with staff service is the proper foundation of a good preparation for superior command.

"These considerations have decided the Minister to issue a regulation that no officer can aspire to the command of a division, unless he has first commanded a regiment and a brigade.

"For my part, I have observed that a great number of officers shirk the necessity of commanding a battalion and of undergoing a cavalry course, some from motives of duty, others from aversion to practise their profession. I think it, therefore, necessary to order that the officers of the general staff shall undergo the second regulation regimental course, either in the fourth year of their rank of lieutenant-colonel, or else at the commencement of their promotion to the rank of colonel."—*Revue du Cercle Militaire*.

Last summer two batteries of horse artillery of the 10th Cavalry Division executed, on the river Donetz, two exercises in crossing the water based on two different procedures :—

*Exercise of the 3rd Battery of Cossacks of the Don.*—The passage was effected by means of the procedure called "Mongol," using, to float the *matériel*, ox-hide bottle-shaped skins, which, when inflated, were about 6 feet long and about 8 feet in circumference. The weight that each of these skins could support in the water was about 9 cwt. At the spot chosen for the crossing, the Donetz was about 108 yards wide and about 30 feet deep. The *personnel* of the battery swam across the river with the horses; the clothing and equipment of the men, the harness and the ammunition were placed on rafts, which were towed across to the opposite bank by means of ropes.

With regard to the *matériel*, the manoeuvre was as follows :—Each gun, hooked to its limber, was pushed by hand into the river until the water reached the nave of the wheels. One of these inflated skins was then fixed to each of the four naves; to do this the four corners of the skins were furnished with cords, which were rolled round the nave and the end tied either to the limber or to the gun; a rope, the ends of which were on the opposite bank, was then tied to the splinter bar of the limber, and was used to drag the wagon until it floated by means of the skins; a second rope, one end of which was tied to the axle of the gun, whilst the other end lay on the near bank, was used to draw the skins and the end of the first rope to that bank, after each gun and limber had crossed over; as soon as the wheels of the wagon touched ground at the opposite bank, the skins and ropes were detached and sent across to the other bank by the means before mentioned; the wagon was then drawn ashore by hand. The battery, the *matériel* of which consisted of six guns, which were passed over in succession, completed the crossing in 1 hour and 10 minutes. The exercise ended in a march of about six miles followed by a shooting practice.

*Exercise of the 17th Battery.*—In this exercise the guns were crossed by simply dragging them along the bottom of the river. At the spot selected, the Donetz was about 80 yards wide, and had a maximum depth of 23 feet. The bed of the river was sandy, with some muddy portions. The crossing of the *personnel* and horses was effected in the same way as in the previous exercise. With regard to the guns, they were merely dragged to the opposite bank by means of a rope tied to the splinter bar of the limber. To guard against the breaking of this rope when the gun was at the bottom of the water, a second rope, the ends of which remained on the near bank, was tied to the axle of the gun; this last was also useful to bring back the end of the first rope, after the crossing of each piece. The duration

of the crossing for a battery of six guns was 55 minutes. In this exercise, as in the preceding one, the manœuvre ended with some shooting practice.—*Revue d'Artillerie*.

The *Rouskii Invalid* has lately published some remarks of General Engelhardt, Inspector-General of Artillery, on the Russian Q.F. artillery matériel, of which the following are extracts :—

"I gave myself up entirely for four years to the study of Q.F. artillery at the works at Pontilov and Alexandrovsk. Utilising the ideas of General Wille, I endeavoured, whilst keeping to the present projectile of 6·5 kilogrammes weight, to obtain great initial velocity, and to check the recoil of the gun-carriage. I tried, besides, as far as possible, to reduce the weight of the gear. I preferred to substitute india-rubber (a material I have studied for five and twenty years, and in which I have the fullest confidence) for steel springs and pneumatic brakes. The action of steel springs is not always regular; as regards pneumatic brakes, their mechanism is complicated, little understood in Russia, and not suitable to our climate. The gun-carriage I invented during my studies resembles the 'Nordenfelt' one, a small movable gun-carriage on a frame supported by wheels. India-rubber springs check the recoil and bring back the gun to its original position; a hydraulic apparatus regulates their action and deadens the shock.

"Q.F. artillery demands an increase in the supply of ammunition near the guns. If the present type of ammunition wagon is kept, viz., four-wheeled and drawn by six horses, it is impossible to attain this augmentation in the supply, without increasing the present number of the team.

"To solve this problem I studied a model of a two-wheeled ammunition wagon drawn by two horses. The ammunition wagon with six horses carries 80 projectiles, the two-wheeled ammunition wagon contains 40, so with the same number of horses one-and-a-half times as many projectiles can be carried by the two-wheeled ammunition wagon as by those of the present type.

"It will, besides, be absolutely necessary to reduce the number of guns in a battery from eight to six. One can thus, by using the 12 horses available for drawing the two-wheeled ammunition wagons, increase by 160 projectiles the supply of the battery, without augmenting the number of horses, and without weakening the fire of the battery a battery of six Q.F. guns being able to discharge many more projectiles, in a given time, than the present battery of eight guns.

"The length of the gun-carriage I have decided upon is perceptibly greater than those of the models of 1877 and 1895."

The following are the various details of General Engelhardt's Q.F. matériel :—

Calibre	...	...	...	...	3·42 inches.
Weight of projectile	...	...	...	...	14 lbs.
Muzzle velocity	...	...	...	...	1,950 feet per second.
Weight of gun	...	...	...	...	5 cwt. 47 lbs.
Number of shells carried by avant-train	...	...	...	...	36
Number of shots fired per minute	...	...	...	...	16

An interesting lecture was delivered on the 14th April at the Naval Institute by Staff-Captain Count Nostiti, on the rising on the N.W. Frontier of India in 1897. The lecturer visited India shortly after the rising came to an end, ascribed it in part to the hatred excited by acts of violence on our part and arbitrary acquisitions of territory, though the fanaticism of the mountain tribes, excited by their mullahs, had also much to do with it. He dwelt on the skilful tactics of the Ameer, who, while continuing to assure the English of his neutrality, managed to make his influence felt among the tribesmen.

He also dwelt on the insufficiency of English officers in native regiments, and the practice of such as there were being frequently detached from their regiments,

in several instances only three being present out of eight or nine. In the case of war on a large scale, English officers would have to be attached who did not know the native languages, and several instances occurred during the campaign where two or three officers were killed, and the survivors could not speak to the men in their own language. He had little doubt that the tribesmen procured many of their rifles from Cabul.

He considered that the results achieved by the English were most unsatisfactory. The tribesmen had to be persuaded by General Lockhart to cease operations, and, as they retained their independence, consented to leave the English alone for a time. The outcome of the Russophobic policy of the English was that between 1878 and 1896 they had expended 708 millions of rupees. This dread of Russia showed how weak the English felt their hold on India was. To quote Skobelev, "Dread is the heritage of the weak; the strong are not subject to it."

The *Rouskii Invalid* gives some particulars regarding the results of the calling out of the 1898 class of recruits in the provinces of the Russian Empire, with the exception of the districts of Viouban, Terek, and Trans-Caucasia. The numbers to be furnished by the contingent had been fixed by a Ukase of May at 286,800 men. The number of men subject to military service on the 1st October, 1898, amounted to 953,195, of which 927,209 were inscribed on the rolls, and 25,896 were put back, on account of their appearance, from want of documents fixing their exact age. 425,580 recruits had a right of exemption for family reasons. The number of those brought before revision boards was 723,888. 282,826 were taken for the Active Army; 1,713, on account of their occupation, were sent to the military and naval depôts; 44 young men were in possession of exemption certificates; 85,312 men were exempted as physically unfit on account of height, maladies, infirmities, etc.; 89,741 were put back; 216,170 were relegated to the 1st levy of the Reserve. The number of recruits who failed to appear was 35,074 (3·7 per cent.), of which 8,244 were Jews, and 26,830 of other religions.

The general results of the calling out of the 1898 recruits were as follows:—  
1. The class of 1898 is inferior to that of 1897 by 16,597 men, although the contingent taken for the Active Army was greater by 3,900 men. 2. The number of those put back is less by 11,304 than in 1897. 3. The number of exemptions is higher by 1,868 men. 4. The percentage of recruits failing to appear is 0·4 per cent. higher than in 1897.

SWITZERLAND.—The Federal Military Department in its report gives the effective of the Army on the 1st January, 1899, at 148,435 men, who are distributed as follows:—

Infantry 111,553, cavalry 4,368, artillery 20,449, engineers 5,734, medical corps 4,747, administrative troops 1,436, cyclists 148. 85,676 men figure on the rolls of the Landwehr, of which 62,134 men belong to the 1st levy, and 23,542 to the 2nd. Finally, the Landsturm contains 275,596 men, of which 50,440 belong to the combatant, and 225,156 to the non-combatant portion.

Mobilisation experiences are so rare in the Swiss Army, that it is interesting to note those that are ordered by the Military Department. It must be noted that to place the fortifications of Gothard and Saint-Maurice against all chance of surprise before the mobilisation ended, the commanders of those two places had under their orders:—1. The custodians of the forts, composed of mechanics and special workmen in receipt of an annual stipend, as well as the "Garde de sûreté," composed of volunteers. 2. The District Valley troops (*Thalwehren*), including effective officers and men of all arms (Active, Landwehr, and Landsturm) residing in the neighbouring communes. The District Valley troops were re-drafted into their corps as soon as the mobilisation was completed.



The order was given to the commander of Saint-Maurice (Valais) on the night of the 5th to the 6th April, 1899, to mobilise the Thalwehr, which is under his command in the event of war, and which is scattered in the four Valais and Vaudois communes nearest to that place.

On the 6th, at 4 a.m., the order to mobilise was transmitted by telephone to the communes concerned. The men assembled immediately in each commune, set out in all haste to Saint-Maurice, where they were directed to the Dailly and Savatan works. At 11 a.m. the Thalwehr, complete in every detail, occupied the north and west frontiers, the supposition being a violation of Swiss neutrality by France. At 3.30 p.m. the troops were reviewed and disbanded. This exercise was carried out in a most satisfactory manner, and the results obtained gave complete satisfaction to the military authorities.—*Revue du Cercle Militaire*.

The *Revue Militaire Suisse* announces that a trial is about to be made of a new equipment for infantry officers. It consists of a sword with belt and sling, a revolver with case, field glasses with case, sabretache, and valise.

The sword has a straight blade; blade and scabbard are nickled. It is proposed to have three different models: a large model of 1.04 metres in length, a medium one of .99 metre, and a small one of .94 metre long, the weight varying, according to length, from 1.140 kilogrammes to 1.170 kilogrammes. The sword is attached by a single sling to the belt, which is worn round the waist over the jacket or tunic, and is fastened by a square-shaped buckle.

The belt is of black varnished leather for subaltern officers. In leather, covered with a wide silver braid, for officers of superior rank. The revolver hangs in front and on the left of the buckle, and the field-glasses in front and on the right of it. The sabretache hangs from the right.

The valise, similar to the soldier's, but of smaller dimensions, is made of black prepared calf skin and varnished leather, and has no ammunition compartment. Some girth straps, fitted to the braces of the valise, and furnished with hooks, support the waist belt, and are replaced, when the valise is not worn, by a strap which passes behind the neck and rests on the shoulders. The sword, which is fixed very firmly to the belt, and which hangs vertically, allows the officer to march, and even to run, at the same time keeping both his hands free.

UNITED STATES.—The following order has been received from the War Office Department:—

War Department,  
Washington,  
8th March, 1899.

By direction of the President, the organisation of the enlisted strength of the Regular Army under the Act of Congress, approved March 2nd, 1899, entitled "An Act for the increasing of the efficiency of the Army of the United States and for other purposes," is established as follows, and the necessary assignments to the various organisations named will be made as rapidly as recruits become available for the purpose:—

#### CAVALRY.

12 troops of 100 enlisted men each	...	...	...	1,200
Regimental and squadron non-commissioned staff	...	...	...	6
Regimental band	...	...	...	28
Total number of enlisted men in regiment	...	...	...	1,234
Number of regiments	...	...	...	10
Total number of men enlisted in cavalry	...	...	...	12,340

Each troop of cavalry shall consist of 1 first sergeant, 1 quarter-master-sergeant, 6 sergeants, 8 corporals, 2 cooks, 2 farriers and blacksmiths, 1 saddler, 1 wagoner, 2 trumpeters, 76 privates. Total, 100.

## ARTILLERY.

12 batteries of heavy artillery, 120 enlisted men each	...	1,440
2 batteries of field artillery	...	240
Regimental non-commissioned staff	...	2
Regimental band	...	28

Total number of enlisted men in regiment ... 1,710

Number of regiments ... 7

Total number of enlisted men in artillery ... 11,970

Each battery of heavy artillery shall consist of 1 first sergeant, 1 quarter-master-sergeant, 8 sergeants, 12 corporals, 2 musicians, 2 mechanics, 2 cooks, 92 privates. Total, 120.

Each battery of field artillery shall consist of 1 first sergeant, 1 stable sergeant, 1 quarter-master-sergeant, 6 sergeants, 12 corporals, 4 artificers, 2 musicians, 2 cooks, 91 privates. Total, 120.

## INFANTRY.

12 companies of 112 enlisted men each	...	1,344
Regimental and battalion non-commissioned staff	...	6
Regimental band	...	28

Total number of enlisted men in regiment ... 1,378

Number of regiments ... 25

Total number of enlisted men in infantry ... 34,450

Each company of infantry shall consist of 1 first sergeant, 1 quarter-master-sergeant, 4 sergeants, 12 corporals, 2 cooks, 2 musicians, 1 artificer, 89 privates. Total, 112.

Battalion of engineers ... 752

Total line of the Army... 59,512

## STAFF DEPARTMENT, ARMY SERVICE DETACHMENT, ETC.

United States Military Academy, General Army Service,  
Cavalry detachment, field musicians, and band ... 250

Signal corps, 720, organised as follows :—

100 first-class sergeants, 200 sergeants, 50 corporals,  
300 first-class privates, 50 second-class privates, 20  
cooks ... 720

Hospital corps, 2,600, organised as follows :—

Hospital stewards ... 175  
Acting hospital stewards ... 325  
Privates ... 2,100

Ordnance department ... 605

Commissary sergeants ... 100

Post quarter-master-sergeants ... 105

Electrician sergeants ... 75

Indian scouts ... 75

Recruiting parties, recruits, etc. ... 500

Total Staff, etc. ... 5,030

Line of the Army ... 59,512

Total 64,542

The ration for use by troops in the tropics must be non-irritating, easily transported, and, above all, easily preserved. The beef component and salt pork

should be reduced one-half, farinaceous food being substituted therefor. Salt meats should not be issued more than once or twice a week, and if meat be needed, fresh meat should be supplied. Of cereals, hominy is the best, as the husks are removed in the process of manufacture. Equally valuable is rice, and the white bean of this country should not be issued, but instead, the red bean, commonly found in the tropics, as it breaks up rapidly in cooking, and is more digestible. These beans and hominy form the staple diet of the Mexican Army. In addition to the above, apples and prunes should be added to the ration for the tropics.

The German soldier in the tropics, says Dr. L. L. Seaman, major of the U.S. Volunteer Engineers, in a recent lecture, before the New York Academy of Medicine, reported in the *Medical Record*, gets 2.33 ozs. of fresh meat, or 4.4 ozs. of salt bacon, while he receives 79 ozs. of vegetables, including potatoes. The Japanese soldier receives a ration of 36 ozs. of rice, and an allowance of about 6 cents for his meats, tea, etc.

The Surgeon-General's Commission, which has just returned from the tropics, insisted that no improvement could be made in the diet of our soldiers. At present the daily ration of the soldier in the United States Army consists of fresh meat, 2½ ozs.; or salt beef, 22 ozs.; or pork or beef, 12 ozs.; bread or flour, 18 ozs.; potatoes, 16 ozs., peas or beans, 2.40 ozs.; or tinned tomatoes, 5.33 ozs.; rice, 1.60 ozs.; salt, 0.25 oz. The travel ration was made up as follows:—Hard tack, 1 lb.; beef, canned, 0.75 lb.; baked beans, 0.33 lb.; sugar, 1.5 lbs. The ration, as given, was the ration for soldiers in Alaska through the winter of a year ago, and was essentially the same as was issued to the army in Cuba. It is estimated that one-sixth of the total income of food is expended on mechanical force, and five-sixths for the production of heat.

The general experience of inhabitants of warm climates was in favour of a diet which was chiefly vegetable. This offers a sufficient supply of albuminoids without giving an unnecessary amount of heat-producing ingredients. Dr. Seaman argues that the food products of each one would be found to be peculiarly well adapted for these particular regions. The natural appetite instinctively inclines one to eat those articles of diet best suited to the particular zone in which one happens to be.

The ration of the British soldier in India has a meat component which is less by from 4 to 6 ozs. than in the United States ration, and the rice was greater by 4.2 ozs.; but even so the British nation has been criticised chiefly on the ground that it was too liberal, as it was well known that a moderate quantity of food was most desirable in the tropics.—*Scientific American*.

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URUGUAY.—The following is a list of the forces which, according to the last budget, constitute the Regular Army of the Republic:—

#### INFANTRY.

1st, 2nd, 3rd, and 4th Infantry Battalions, at 400 men each	1,600
1 Battalion "Urbano de la Capital" ... ..	300
Urban companies of Durazno, Salto, Artigas, Cerro- Largo, Tricenta y Tres, Rocha, and Minas, at an average of 100 men each ... ..	700
Total ...	2,600

#### CAVALRY.

1st, 2nd, 3rd, 4th, and 5th Regiments at about 300 men each	1,500
Mobilised frontier regiment ... ..	300
President's escort, 50 lances ... ..	50
Total ...	1,850

## ARTILLERY.

1 Regiment of artillery	...	...	...	...	...	200
1 Company "Fort General Artigas"	...	...	...	...	...	60
1 Company "del Parque"	...	...	...	...	...	100
Total						360

## GENERAL MILITARY ACADEMY.

Cadets	...	...	...	...	...	...	40
Troops	...	...	...	...	...	...	26
Total							66

—*Revista Militar y Naval.*

## NAVAL AND MILITARY CALENDAR.

APRIL, 1899.

- 3rd (M.) 2nd King's Royal Rifles arrived in India from Cape Town on the "Avoca."
- 5th (W.) 2nd King's Own Yorkshire Light Infantry left Madras on the "Avoca." Headquarters and 4 companies for Mauritius; 4 companies for Cape Town.
- 7th (F.) Launch from the Odero Works at Sestri Ponente of Torpedo-boat Destroyer "Pellicano" for Italian Navy.
- " " 1st Northumberland Fusiliers left Crete for England on the "Verona."
- 10th (M.) Launch from Royal Dockyard at Lisbon of third-class cruiser "Reinha Dona Amelia" for Portuguese Navy.
- 13th (Th.) 2nd King's Own Yorkshire Light Infantry arrived at Mauritius. Headquarters and 4 companies disembarked.
- 14th (F.) Headquarters and 4 companies 1st King's Royal Rifles left Mauritius for Durban on the "Avoca."
- " " H.M.S. "Talbot" left Portsmouth for North America and West Indies.
- 16th (S.) H.M.S. "Edgar" arrived at Spithead with paid-off crew of "Royal Oak" from Malta.
- 17th (M.) British flag hoisted at Tai-po-fu. Natives fired on British, but were driven off with some loss.
- 18th (Tu) British flag hoisted at Kowloon. Natives fired on British, but were driven off.
- 19th (W.) 1st Northumberland Fusiliers arrived at Southampton from Crete on the "Verona," and proceeded to Aldershot to be encamped.
- 20th (Th.) H.M.S. "Forte" commissioned at Chatham for Cape of Good Hope and West Coast of Africa.
- " " H.M.S. "Warspite" left for Pacific.
- 24th (M.) 4 companies 2nd King's Own Yorkshire Light Infantry arrived at Cape Town on the "Avoca."
- 25th (Tu.) Launch from Messrs. Yarrow's Yard of Torpedo-boat Destroyer "Akibono" for Japanese Government.
- 27th (Th.) One squadron New South Wales Lancers, consisting of 3 officers, 11 N.C. officers, and 92 men, arrived in London on the "Nineveh," and proceeded to Aldershot, to be attached there.
- 30th (S.) H.M.S. "Renown" arrived at Spithead from Bermuda.

## FOREIGN PERIODICALS.

### NAVAL.

ARGENTINE REPUBLIC.—*Boletín del Centro Naval*. Buenos Aires: March, 1899.—“Practical Naval Architecture” (*concluded*). “The Ammunition Hoists of the battle-ship ‘Almirante Brown.’” “Yachting in our own and other countries.” “The Mercantile Marine and the French Navy League.” “The New Uses for Electricity in the Navy.” “Our Coasts: Hydrographical Studies.”

AUSTRIA-HUNGARY.—*Mittheilungen aus dem Gebiete des Seewesens*. No. 5. Pola: May, 1899.—“The Development of the Imperial Navy during the last Fifty Years” (*concluded*). “Whitehead's New Broadside Submerged Torpedo-Tubes.” “A Receiver for Marconi's System of Telegraphy.” “The Complex-Engines of the Coast-defence battle-ships ‘Wien,’ ‘Monarch,’ and ‘Buda-Pest.’” “The French and German Naval Manœuvres of 1898.” “The Advantages of the Panama and Nicaragua Canal.” “The German Naval Estimates for 1899.” “Naval Notes.”

BRAZIL.—*Revista Marítima Brasileira*. Rio de Janeiro: March, 1899.—“About the Navy.” “The Argentine Republic.” “On Submarine-Boats.” “Treatise on Naval Tactics” (*continued*). “On the Chino-Japanese War.” “The National Navy.” “Foreign Navies.” “Naval Notes.”

FRANCE.—*Revue Maritime*. Paris: March, 1899.—“Corsair Warfare.” “Exploration in Annam and among the Laos.” “A Study of the Medical Service on board ship in view of battle” (*concluded*). “China and the Great Powers.” “Naval Notes.” “The Mercantile Marine.”

*Le Yacht*. Paris: 1st April, 1899.—“The English Naval Estimates.” “Yachting Notes.” “Ships of Small Tonnage in Bad Weather.” “New United States Naval School.” “The Question of Measurement in Yachts.” 8th April.—“The New Organisation of the *Défenses Mobiles*.” “Yachting Notes.” “The Minimum of Tonnage for Bad Weather.” 15th April.—“M. Lockroy's Round of Inspection.” “Yachting Notes.” “Sea-worthiness of Vessels of Small Tonnage.” “The Austro-Hungarian Navy.” “The New Russian Ice-breaker ‘Ermack.’” “The Question of Measurement for Yachts.” 22nd April.—“The Law for Workmen Compensation for Injuries, having regard to work on board Ships.” “Yachting Notes.” “The American Four and Five Masted Schooners.” “Increase of our Mercantile Steam Fleet.” “The Overhanging Stem of Yachts and their True Length.” 29th April.—“Necessity of a Precise Terminology for the Designation of Submarine Soils.” “Yachting Notes.” “Ships with Lateral Compartments.” “The Question of Measurement for Yachts.” “The Austro-Hungarian Navy” (*continued*).

*Le Moniteur de la Flotte*. Paris: 1st April 1899.—“The Officers of the Reserve.” “French Navy League.” “The Navy in Parliament.” “The Torpedo Schools.” 8th April.—“The Colonial Army.” “The French Navy League.” “The Navy in Parliament.” “The *Points d'Appui* of the Fleet.” 15th April.—“The Colonial Army” (*continued*). “The French Navy League.” “M. Lockroy's Visit of Inspection.” “The Mediterranean Squadron at Cagliari.” 22nd April.—“The Italian Navy.” “The Mediterranean Squadron at Cagliari.” 29th April.—“Ships and Coast Batteries.” “The Fêtes at Sardinia.” “Wireless Telegraphy.”



*La Marine Française.* Paris: March and April, 1899.—Has not yet been received.

GERMANY.—*Marine Rundschau.* Berlin: May, 1899.—“Self-Steering Apparatus for Torpedoes.” “The Etappen-Routes of England to India and the Cape of Good Hope.” “Do we need a Naval High School?” “A Fleet in Being.” “H.I.M.S. Gun-boat ‘Albatross.’” “Captain Mahan’s letters to the *Times*” (translated). “The Survey in Kiao-Chau.” “The Work of the Navy in the Suppression of the Arab Rising in East Africa, 1888-1890.” “Naval Notes.”

ITALY.—*Rivista Marittima.* Rome: April, 1899.—“Italy and China.” “Smuggling under the Republic of Venice.” “Naval and Political Geography.” “The Antilles in 1898.” “Contributions to a New Method of Navigation.” “The Measurement of Yachts.” “Turbine Motors.” “Naval Notes.”

PORTUGAL.—*Revista Portuguesa, Colonial e Maritima.* Lisbon: 20th April, 1899.—“City Districts.” “Colonial Agriculture.” “Colonial Administration.” “Means of Encouraging Agriculture in the Province of Mozambique.” “Some Remarks on Modern War-ships and Merchant-vessels.” “Naval Notes.”

SPAIN.—*Revista General de Marina.* Madrid: April, 1899.—“Recent Alterations in the Rights and Duties of Belligerents and Neutrals in Conformity with International Law.” “Injuries to Machinery at Sea, and the Means of Repairing them” (*continued*). “Some Studies on the Nicaragua Canal.” “The Niclausse Boilers on board the ‘Pelayo.’” “Navy Leagues.” “Submarine-Boats.” “Attempt at a Classification of Ships-of-War” (*continued*).

UNITED STATES.—*Proceedings of the United States Naval Institute.* Vol. XXV. No. 1. Annapolis: March, 1899.—“The ‘St. Louis’ as a Transport.” “Sketches from the Spanish-American War.” “The Last Naval Engagement of the War.” “Some Experiences on a U.S. Naval Tug-boat.” “Battles and Capitulation of Santiago de Cuba.” “Professional Notes.”

### MILITARY.

AUSTRIA-HUNGARY.—*Militär-Zeitung.* Vienna: 6th April, 1899.—“And the Cadets?” “Brescia.” “The Military Health Resört at Carlsbad.” 14th April.—“The Education of Officers’ Children.” “Lodging Allowance.” 22nd April.—“On the Disarmament Question.” “About Reconnaissance Duty.” 30th April.—“Reforms in Military Organisation.” “The New German Military Regulations.” “The May Promotions.”

*Mittheilungen über Gegenstände des Artillerie- und Genie-Wesens.* Vienna: April, 1899.—“Survey of the Historical Development of Mines in War.” “Types of Girdle Forts and their Constituent Parts.”

*Organ der Militär-wissenschaftlichen Vereine.* Vienna: March, 1899.—Russia’s Aims in Asia.” “The Development of Repeating Weapons.”

April, 1899.—Has not yet been received.

BELGIUM.—*Bulletin de la Presse et de la Bibliographie Militaires.* Brussels 15th April, 1899.—“Germany’s Defensive System” (*continued*). “Manœuvres in France in 1898” (with map). “Study on Infantry Fire” (*continued*). 30th April.—Has not yet been received.

FRANCE.—*Revue du Service de l’Intendance Militaire.* Paris: March-April, 1899.—“Conditions of Naval War.” “Adulteration of Flour.” “Study of

Public Feeding in its relation to the Feeding of Armies." "Experimental Researches on the Physical Properties of Stuffs used in the Army." "Composition and Alimentary Value of the Principal Vegetables." "Simple Apparatus for the Automatic Storing of Sacks of Grain." "Samples of Flour for Exportation." "Statistics of Zinc."

*Revue du Cercle Militaire.* Paris: 1st April, 1899.—"Preparation of the Section for its rôle of Combined Fire Action" (*continued*). "A Garrison Lecture—The Franco-Italian Alps" (*concluded*). "Our Alpine Troops criticised by the English." "Foreign Tactics—Germany—Work on a Map" (*continued*). "Subjects for Discussion." 8th April.—"A Sham Fight on a Map" (with map and sketch). "A Long-distance Ride—Moulins-Paris-Moulins." "New Organisation of the Prussian Army Corps" (with sketch). "Horse Resources of Italy." "Subjects for Discussion." 15th April.—"Note on the Employment of Artillery Fire by means of the Goniometer." "The Application of the New Military Law in Germany." "The Horse Question." "Subjects for Discussion." 22nd April.—"Foreign Tactics—Germany—Work on a Map." "Note on the Employment of Artillery Fire by means of the Goniometer" (with sketch—*continued*). "New Organisation of the English War Office." "The Austrian Field Artillery." 29th April.—"Note on the Employment of Artillery Fire by means of the Goniometer" (with map—*concluded*). "Naval and Military Budgets in England—Naval Budget." "Contemporary War and the Eastern Question."

*Revue d'Artillerie.* Paris: April, 1899.—"War-Ships and Coast Batteries: Operations of the American Squadron at Santiago de Cuba." "Field Service Exercises by Groups of Batteries." "One's own Country" "Apparatus for the Laying of Siege and Fortress Guns, proposed by Lieutenant van Royen, of the Dutch Artillery."

*Le Spectateur Militaire.* Paris: 1st April, 1899.—"The Grand Manœuvres" (*continued*). "Field Service in the Colonies" (one sketch—*continued*). "Recollections of an Infantry Marine Officer" (*continued*). "Historical Essay on the Russian Army" (*continued*). "The Russian Cavalry." 15th April.—"The Grand Manœuvres" (*continued*). "Recollections of an Infantry Marine Officer" (*continued*). "Field Service in the Colonies" (one map—*continued*). "Historical Essay on the Russian Army" (*continued*). "The Russian Cavalry" (*continued*).

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for Provisioning" (*concluded*). "Effect of Peace on the Spanish Army since the War with the United States."

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*Revista Técnica de Infantería y Caballería*. Madrid: 1st April, 1899.—"Promotion and Pay" (*continued*). "Infantry: Proposed Tactical Instruction for Companies" (*continued*). "Fencing Salles." "Independent Cavalry before Water-Courses" (*continued*). 15th April.—"Promotion and Pay" (*continued*). "Application of Tactical Problems on Level Country." "Independent Cavalry before Water-Courses" (*continued*). "The Corps of Officers." "Character of Command."

SWITZERLAND.—*Revue Militaire Suisse*. Lausanne: April, 1899.—"Marching Formations as Manœuvre Formations." "Field Firing of the Swiss Artillery in 1898." "Officers' Equipment" (with sketch). "A few Suggestions on Long-Distance Rides." "The Use of the Regulation Porter's Stretcher of the Swiss Alpine Troops, as a means of Carrying the Wounded" (with two sketches). "A Mobilisation Trial."

## NOTICES OF BOOKS.

*Life of Admiral Lord Lyons, G.G.B.* By Captain S. EARDLEY-WILMOT, R.N. London: Sampson Low & Co. 1898.

*Memoirs of Sir Astley Cooper Key, G.C.B., D.C.L., F.R.S.* By Vice-Admiral COLOMB, R.N. London: Methuen & Co. 1898.

It has been pressure on our space, and not lack of an appreciation of their merits, that has prevented these two very able biographies from being before noticed in the pages of this JOURNAL, and we notice the two books together, for one is in a sense the complement to the other. The most interesting and fuller portion of Cooper Key's life starts from the period of Lord Lyons's death. Lord Lyons died on the 27th of November, 1858; Cooper Key started in 1860 that career of administrative work which was to continue until the end of his service, and to identify him so closely with the new Navy. Both books, taken together, cover what is practically the naval history of the century, for Lyons entered the Service in 1802, while Cooper Key died barely ten years ago. The two stories, therefore, overlapping as they do, cover every phase of that revolutionary change that has taken place in the Navy during the century. Between both biographies there are many points of similarity, and yet the lives of the heroes of them were in many ways dissimilar. Both are the life histories of distinguished sailors written by sailors, who are both well-known men specially qualified for the task. Both deal with portions of our naval history to which adequate recognition has never been given in published histories, and the facts relating to which are not generally known. In the case of Lord Lyons these are the naval operations in the Black Sea during the war with Russia, 1854-56; in the case of Sir Astley Cooper Key the operations on the Parana River in 1845-46. And yet, as we have said, the careers of the two men were of very different natures. Both entered the Service, although one was twenty-one years before the other, under the same conditions, for no sign of the great change coming was visible when Astley Cooper first joined the college at Portsmouth; but the one only just saw the commencement

of the revolution, the other saw not only its inception, its growth and completion, but took an active and prominent part in the carrying of it out. The one was a man—although for near twenty years he was employed purely as a diplomatist on shore—who put in all his naval service afloat and actively engaged in the handling of ships and fleets; the other passed the most important half of his naval life engaged in work at the naval establishments on shore, and at the Admiralty. One was an admiral who commanded a large fleet for a considerable period on service against a great European Power; the other never in war service held a command higher than that of captain, and even in peace passed the period of his flag rank employed on shore with the exception of a three years' spell, 1875-78, as commander-in-chief on the North American and West Indian station, and twice for a few weeks in command of the Reserve Squadron when mobilised for a summer cruise, first in 1869, and again in 1878.

Beyond a piece of brilliant bravery by which, in direct contravention of orders forbidding him to attack, he captured Fort Marrack, in Java, before he had attained his majority, Lyons's career was uneventful until he was made commander in 1812, and promoted post two years later. Even then he remained unemployed during the piping years of peace that succeeded the great war, until a ship was given him—the "Blonde," a 46-gun frigate, in 1828. From her he went to the "Madagascar," in which, in 1832, he convoyed King Otho to Greece, when the Bavarian Prince was elected ruler of the newly-freed kingdom; and the close touch this brought him into with Greek politics eventually led to his becoming our Minister at Athens, and to his adopting for eighteen years a political career. Throughout all this long period, however, he kept as much as possible in touch with the Navy, and his most enjoyable relaxation from official cares was to take a cruise in a war-ship when possible. Captain Eardley-Wilmot, however, passes over this period briefly, and devotes the bulk of his book to tracing his hero's career through the various phases of the Russian war. With this period and the events therein as far as they come within the scope of his work, Captain Eardley-Wilmot deals both ably and interestingly. Lyons went out only as second-in-command to Dundas, but Dundas, to whom he was subordinate, was anxious to go, and the Ministry were anxious to have Lyons on the spot to succeed him. Dundas, in one of his letters to Hamilton, says:—"Why not send Lyons to relieve me from this harassing work?" Lyons himself, writing to his son when off the Needles, says:—"Sir James said over and over again to me that he and his colleagues in the Cabinet considered me the fittest man to have the chief command if it were vacant." The ship he had chosen for his flag-ship was the "Agamemnon," a new 91-gun screw ship of the line—and in her he entered the Black Sea with the fleet, Dundas flying his flag in the 120-gun sailing ship the "Britannia." In fact at the beginning of the war all the ships of the line in the Black Sea, with the exception of the "Agamemnon" and "Sans Pareil," were sailing ships, whereas all the frigates and sloops, with the exception of two fifties—the "Arethusa" and "Leander"—and a 21-gun frigate, the "Diamond," were steamers. At the great attack on the sea defences of Sebastopol Lyons commanded the in-shore squadron, consisting of the "Agamemnon," "Sans Pareil," "London," "Albion," and "Arethusa," the three latter towed into action by the "Niger," "Firebrand," and "Triton." The three sailing ships were all set on fire, and had to be towed out of action; the "Sans Pareil" had weighed to alter her position, and so for a time the flag-ship was left entirely unsupported, but escaped marvellously, having only four men killed and twenty-three wounded. On the 20th of December, 1854, Lyons succeeded Dundas in the supreme command, and the somewhat strained relations between them Captain Eardley-Wilmot deals with fairly and impartially. It is interesting to note Lyons's opinion of the ironclads, written after the attack on Kinburn:—"The French floating batteries have gained golden opinions . . . the only effect upon them was the appearance of a few mat-like marks where the shot struck and bounded



off." And again :—"You may take it for granted that floating batteries have become elements in amphibious warfare." The vindication of Lyons from Hamley's charges is excellently done by Captain Eardley-Wilmot. For example, in refutation of Hamley's view that "it was very unfortunate he [the admiral] enjoyed such credit with Lord Raglan as to be listened to, even when giving opinions concerning which Lord Raglan had legitimate advisers at hand," he quotes a letter from Burgoyne to Lyons, which reads :—"I regret exceedingly that your naval arrangements keep you from affording us by word of mouth the *cheering* counsels that you are always inclined to promote." Captain Eardley-Wilmot has carried out his task with every success, and has given us a well-told and impartial biography of a very interesting personage.

Turning to Admiral Colomb's work, we find a biography equally well done and perhaps even more interesting, as dealing with an officer well known to the present generation of naval officers, and whose personality has left a strong impress on the Navy of to-day. Moreover, the book has a special charm, for it traces and throws fresh light on the many changes that have taken place during the last forty years. Key joined the Service in 1835, and for the next quarter of a century there was nothing to particularly single him out as a man bound to make a distinct mark in the Service he had chosen. None the less, however, is the portion of Admiral Colomb's biography that deals with the early part of Key's career of great interest. It throws much light on the discipline and inner life, both aft and on the lower deck, of the Navy of those days. Many most interesting details of this character will be found in those earlier chapters which deal with Key's life on his first ships, the "Russel" and "Cleopatra." After that a course in the "Excellent," which stood him in good stead later when he had to face the gunnery problems with which he had so much to do when captain of the "Excellent" and Director of Naval Ordnance. In 1843 he joined the "Curaçoa" as junior and gunnery lieutenant for a commission on the S.E. Coast of America, and a year later exchanged into the "Gorgon," he, as he himself writes, having "come to the determination that the only way to get on in the Service by one's own exertions in these times of peace is to join a steamer and follow it up." Not bad foresight in the young officer. In every respect the change was a good one for Key, for it gave him his chances. Almost immediately afterwards the "Gorgon," much to Key's disappointment, was ordered to the Cape for service in the Bight of Benin, but she was temporarily detained for a few months, and before leaving grounded in a gale in the Bay of Monte Vido, on the 10th of May, 1844. This catastrophe was the making of Key, for she remained aground until the 30th of October, and was eventually got off mainly through Key's mechanical and inventive genius; so much so, indeed, that he received special commendation from the Admiralty. The "Gorgon" was kept on the station, and when the operations against Rosas commenced Key was detached to command the "Fanny," a brig hired and armed for the operations in the Parana, and in her was present in the affair at Obligado. On return home, Key, who for his services had been promoted commander, was given the command of the "Bulldog," a fine new paddle-steamer, in which he served till 1850, in which year he was promoted captain. His first command after promotion was to the screw frigate "Amphion," at first merely to temporarily replace her captain accidentally injured, but ultimately permanently, and in her he served through the Russian war with the Baltic Fleet. In her he again proved his capabilities, and at the close of the war his name was as well known to the public as in the Service, and his reputation was firmly established. On his return Key was transferred to the "Sans Pareil," a new screw line-of-battle ship. In her—after bringing home some troops from the Crimea—he proceeded to China, and took his share in the China war, until invalided home on the 23rd of April, 1858. From this time, with the brief exceptions already noted, the rest of Key's life was to be devoted to administrative and organising work, and he was to take a prominent part in

the creation of the new Navy. We have not space to go fully into the story of this part of Key's life, nor indeed is it necessary, for it is told *in extenso* and without bias in Admiral Colomb's pages. To merely enumerate the posts he held from 1859 to 1885 will show the influence that Admiral Sir Astley Cooper Key exercised over the creation of the Royal Navy of to-day. In that year he was appointed one of the Commissioners "to consider the defences of the United Kingdom," and after the report had been made he was appointed to a most congenial post, that of "Captain of the Steam Ordinary at Devonport." This he held till 1863, when he left it to accept the command of the "Excellent," and so become head of the Gunnery Department of the Navy. From the "Excellent" he became Director of Naval Ordnance, and then successively Admiral Superintendent of the Dockyard first at Portsmouth and then at Malta. The story of these three successive appointments throws an interesting light on the relations subsisting between Mr. Childers and the Admiral, and most people will agree with Admiral Colomb that the First Lord's treatment of Key—his sending him to Portsmouth when a sea command ought to have been given him, and his subsequent banishment of him, so to speak, to Malta—"has left one of the worst blots on Mr. Childers's naval administration." From Malta he was recalled to organise the new Royal Naval College at Greenwich, and was its first president from its opening on the 1st of February, 1873, until in December, 1875, he was offered and accepted the command on the North American and West Indian station. This he held for the customary period, and in the following year, 1879, succeeded Sir George Wellesley as First Sea Lord, with the Rt. Hon. W. H. Smith as First Lord. When, in 1880, Mr. Gladstone formed a new Government, and made the Earl of Northbrook his First Lord, Sir Cooper Key retained his post until the dissolution in 1885. During this period his genius for administrative decision and work and his executive capacity were tested to the utmost, and the story of his period of office at the Admiralty is by no means the least interesting part of the book. Not only the Navy, but all interested in the Navy, will read Admiral Colomb's pages with pleasure, and it is a matter for congratulation that the biography of the late Admiral has been placed in such able hands.

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*The History of Landguard Fort.* By Major J. H. LESLIE, late R.A. London: Eyre & Spottiswoode, 1898. 12s.

This book is a carefully compiled account of an old and interesting military station in Suffolk, situated at the mouth of Harwich harbour. Very few people except military men who have been quartered at Landguard Fort seem to have heard of it, fewer still are aware that it possesses a history. It was built in the reign of Charles I., and completed in 1627-28, but even before that date there existed a fortification of some description, if only an earthwork. The fort was unsuccessfully attacked by the Dutch in 1667, and one of their scaling ladders is still preserved at Calehill, near Ashford. A new fort was built in 1716, the greater part of the outer walls of which still remain. From 1753 to 1766 the lieutenant-governorship was held by the notorious Philip Thicknesse; shortly after which the fort began to be utilised for artillery practice. During the long war with France it was constantly garrisoned by infantry, or Militia; but between the peace of 1815 and the Russian war the garrison was reduced to a company of artillery or infantry. The fort was rebuilt in 1875 as we now see it; the author of the history describes it as "a picture of ugliness, whilst its internal arrangements are by no means such as to conduce to the extreme comfort of its occupants." But in regard to construction and armament it is probably as formidable a bulwark as our Dutch foemen found it two hundred years ago.

The book is well illustrated with plans, and portraits of the various governors. But the portrait given on page 103 as that of General Harry Trelawny looks more like General Sir Henry Clinton.

*Inquiries Concerning the Tactics of the Future.* (Fourth edition, 1894, of the *Two Brigades*). By FRITZ HOENIG, with one sketch in the text and three sketch-maps. Translated by Captain H. M. BOWER, 3rd Bn. the York and Lancaster Regiment, with two additional maps. London: Longmans, 1899.

The Service owes a debt of gratitude to Captain Bower for having rendered accessible to non-German readers this work, which is at once a mine of knowledge and an inexhaustible magazine of food for reflection on the details and principles of military work in the field. Whilst the conduct of the 28th Infantry Brigade on the battle-field of Königgrätz and that of the 38th Infantry Brigade on the battle-field of Vionville form foundations of the book, the superstructure consists of considerations of the practical questions of war, put forward by a writer, himself of war experience, and whose knowledge of the facts of modern war is unequalled. This is not a book to be read through once and then put away on the library shelf; its place is on the table, where from time to time it may be taken up and its contents pondered over.

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*The Officer's Field Note and Sketch-Book and Reconnaissance Aide-Mémoire.* By Lieutenant Colonel E. GUNTER, *p.s.c.*, late South Lancashire Regiment, D.A.A.G. for Inst. 4th edit. London: W. Clowes and Sons. 6s. 6d. net.

The earlier editions of this well-known Field Note Book were noticed in this JOURNAL. The author explains in his preface the cause of the delay in the issue of the present edition, which is in many ways in advance of its predecessors. The combination of a good firm sketch-book with well-arranged and comprehensive short notes on almost every subject required by officers on field service is managed with complete success. The Bridging Orders and other examples are terse and clear, so that the book will be of great value to officers of all branches of the Service.

The forms for Reconnaissance are from the "Text-Book of Military Topography" 1898, and the War Establishments and other tables are carefully revised up to date. The detachable block is a good idea well carried out.

The Re-fills of Field Message forms on sketch sheets can be inserted even without disturbing the printed matter. The book is light and handy, being 7 inches by 4½ inches and weighing under 8 oz. The labour of revision must have been immense, and Colonel Gunter has placed the officers of the Army under a great obligation by perfecting his work with such care and industry. The book should have a large circulation.

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H. A. Levenson, Esq. ....	Royal Inniskilling Fusiliers.
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*Brevet-Major A. J. Godley ..	Royal Dublin Fusiliers.

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* Captain J. A. S. Tulloch ..	Royal Engineers.
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